SYSTEMS PROGRAMMER

The Daresbury Laboratory, an establishment of the Science Research Council, situated in the north Cheshire countryside is constructing a Nuclear Structure Facility. Known as the NSF, the project is based on a tandem electrostatic accelerator which will be the largest in the world. When completed it will provide a facility of world standard which will attract users from both the national and international science communities.

The NSF machine represents a significant step forward in the technology of this type of accelerator and requires a powerful computer control and monitoring system. It is in fact the first accelerator of its type to be designed with comprehensive integral computer control.

The control system is based on a central Interdata 7/32 computer with up to 10 peripheral Interdata 7/16 computers. A vacancy exists for a Systems Programmer to join a small team of computer professionals designing and producing the software to control this network. Many problems associated with interactive colour displays, plant data handling and the operator interface, made particularly challenging by the distributed nature of the system, remain to be solved and a considerable amount of programming in both high and low level language will be required to complete the system. The post will provide a sound base for a career in computer control systems in general.

Applicants must possess a good honours degree or equivalent and experience in systems programming. The appointment will be made either at Scientific Officer or Higher Scientific Officer level according to qualifications and experience on the following salary scales

Scientific Officer £2,839 to £4,415
Higher Scientific Officer £4,101 to £5,448

There is a non-contributory superannuation scheme, a generous leave allowance and a flexible working hours scheme.

Closing date 31st October 1978.

Write or telephone 0925 65000 Ext. 467, for an application form quoting reference Number DL/644/BV to

The Personnel Officer
DARESBURY LABORATORY
Science Research Council
Daresbury, Warrington WA4 4AD

Computer Professionals

Analysts-Programmers-Managers

Come to California

Our client is a major international Bank, among the largest in the United States, with major computer centres in both San Francisco and Los Angeles. A management commitment to advance utilisation of state-of-the-art computing and telecommunication services in all aspects of the Bank's operations has created exceptional opportunities for outstanding people.

- Four IBM 3033's will be operational by next summer, supported by minis for internal timesharing and international funds transfer plus a statewide network being upgraded to run ACF/VTAM/NCP.
- Applications software is being developed for large-scale on-line programmes leading to revolutionary changes in American banking techniques.
- Dedication to technical and professional excellence is exemplified by continued participation in programmes from concept to on-line use, giving the broadest experience to staff personnel.

Expansion of the computer commitment has created dozens of present and future openings. We will be conducting interviews in London soon.

Applications will be treated in STRICT CONFIDENCE throughout by us and our San Francisco associates. Please send full c.v., quoting ref 1002/CW, to Philip Smith:–

Philip Smith
Manpower Consultants
85-87 Jermyn Street, London SW1Y 6JD

MARTINS COMPUTER SERVICES

The D.P. Recruitment Specialists for the Midlands/West Country areas

MANAGEMENT PROJECT LEADERS SYSTEMS ANALYSTS

OPERATORS

SENIOR PROGRAMMER/ ANALYST PROGRAMMERS

We have many more D.P. positions on our register in all areas of the Midlands/West Country.

Contact: Graham Aston, M.E.C.I.
MARTINS COMPUTER SERVICES. First Floor, Western House, Opposite Albany Hotel, Smallbrook Queensway, Birmingham B5 4HQ. telephone 021-643 2111. 24-hour answering service. Evenings and weekends 021-454 0331.

We are now able to interview until 6.30 p.m. and Saturday morning by appointment.

FORMDESIGN
COMPUTER STATIONERY & BUSINESS FORMS
for HIGH QUALITY, COMPETITIVE PRICES, QUICK DELIVERY plus FIRST CLASS SERVICE
formdesign limited
HALL STREET DUDLEY WEST MIDLANDS UK
TEL (0384) 57461 TELEX 338467

COMPUTER WEEKLY International

NUMBER 87 THURSDAY, OCTOBER 12, 1978

NOVEL METHODS OF DATA TRANSMISSION ARE BOUND TO CROP UP FROM TIME TO TIME. DON'T LET NEWLY HATCHED IDEAS EGG YOU ON TO BIRD BRAINED SCHEMES!

If you want to talk to a Computer – talk to us first
Ring 01-421 0626 or
Telex 923 914 (Robots G).
MODULAR TECHNOLOGY
P.O.Box 117, Watford, Herts. WD1 4PD

Carter to avoid privacy issue

Cameron Davis reports from Washington

PRESIDENT CARTER now has before him a possible Presidential privacy position, but his public statement on the matter may not come this year, a White House source has confided.

"First of all, the President must have some forum for delivering his privacy position," the source explained. "He could create a special forum for delivering his position, but there are so many other major issues commanding his attention that the privacy one may take a while longer in coming."

In September, 1977, the President set up a review process through which the federal agencies could register their comments on the recommendations of the Privacy Protection Study Commission, as well as propose their own alternative means for safeguarding personal records. The agency comments were compiled into a single report that was then forwarded to a special Cabinet-level task force. After adding its comments and revisions, the task force only recently placed the proposed privacy position before the President.

Even if the President does release his privacy position this year, the White House source said, it will obviously be too late to have any impact on legislation in this session of Congress.

"So, any substantive action can't realistically be expected until mid-1979," he added.

CARTER . . . must have some forum.

Datasaab wins $5m Citibank contract

AFTER three years of negotiation, Datasaab has finally landed the first phase of a major banking terminal contract with Citibank in New York.

Worth $5 million, the initial contract is for 300 of the new D16/10 terminals for branches in Lower Manhattan, and subject to its successful completion, Datasaab will get contracts for a further 1,200 terminals for the remainder of Citibank's New York City and Westchester County branch network.

In addition to the standard displays, keyboards and printers, the systems being supplied by Datasaab include an ultra-secure fast cash issuing machine, one of which can dispense notes for two tellers. Designed by Leif Landblad, a specialist in secure mechanical cash handling systems, the device, called a cash adapter, is being built by Inter Innovation of Sweden. Other Lundblad developments in the theft prevention field have been taken up by de la Rue in the UK and Docutel in the US.

Following Citibank's policy of highly distributed systems, the network will be built around a central hub of Scantlin TTI 801 processors. Scantlin is a Californian company.

● Datasaab has also won a major order from the Erste Osterreichische Sparkasse in Vienna. Worth about $4 million, it involves 500 terminals and 75 D16 minicomputers.

D16/10 launched at Sicob — see page 34

INTERNATIONAL BRIEFING

ICL buys South African bureau

A SIGNIFICANT addition to ICL's computer services business in South Africa has been made with the acquisition for an estimated R4 million, £2.4 million of Integrand Scientific Computing.

For its money, ICL is getting the Johannesburg branch, equipped at present with an IBM 360/40, the Cape Town branch, and a two-thirds controlling interest in the Durban branch.

The bureau has 130 customers, and specialises in advertising, freight, share transfer and mailing list applications.

US price rises

BOTH IBM and NCR have raised some maintenance prices in the US. From January 1, IBM maintenance prices on some models in the System 34, 32 and 3 are going up 20% but others are being cut by up to 10%. Rental and lease charges on the products are also going up 2 to 5%. *NCR is putting up selected maintenance charges* by an average of 9%, and rental charges an average 2% on selected computers and terminals.

Brazilian talks

FRANCO-AMERICAN mainframe manufacturer CII-Honeywell Bull is discussing with the Brazilian government the possibility of establishing a computer manufacturing plant there under a joint $50 million project. Brazilian interests would take a 60% share in the venture, with CII-HB holding the remaining shares.

Univac bridge

THE success of the Univac 1100/80 as a bridge machine for Univac 490 series users into the 1100 line continues, and latest customer to make the switch is Trans-Australia Airlines. TAA runs its Taarsan passenger reservation system on three Univac 494s, which support a network of 500 Uniscope 100 displays. TAA is spending $8 million on an 1100/82 which will eventually take over all the applications on the 494s. Another big order for Univac, worth over $3 million has come from the US Department of Commerce for two 1100/80s for use by the National Climatic Centre and the Air Force Environmental Technical Applications Centre.

Career trials

TRIALS are planned in Canada of an ambitious new computerised career guidance system developed by the Canadian government's Department of Employment and Immigration. Called CHOICES, Canadian Heuristic Occupational Information and Career Exploration System, it will offer detailed information on different careers and qualifications required, also on regional [illegible]

Russians and CDC in talks

A MEETING is to be held later this month in Tashkent, USSR, between members of the Soviet Academy of Sciences and representatives of Control Data to discuss the progress made in developing a "recursive computer" system (CW, October 13, 1977).

Although no detailed information on the possible architecture of such a system is available from the Academy, it is known that it will consist of an array of 64 microprocessors — one acting as the controller, and it will operate at about 10 million instructions per second.

US sources have said that it will differ from both sequential processing and distributed processing techniques.

At present, CDC is acting only as an interested bystander, but there is a strong possibility that the talks in Russia could lead to a joint project.

CDC has said that if it did manufacture the system, it would be marketed in the process control field.

ICL and CII-HB may sell Siemens' ink-jet printer

By TIM PALMER

THE new Siemens 270 cps PT80 ink-jet printer is being evaluated by both ICL and CII Honeywell Bull for possible addition to their catalogues.

The Siemens device differs from the IBM ink-jet printer in that it uses a 12 by 9 matrix of ink dots to make up the character set rather than the continuous stream used by IBM.

Siemens-OEM says that the matrix approach while giving a coarser character set, eliminates the need to recycle surplus ink which splashes off the page. This makes the printer much cheaper and easier to maintain, and means that the operator can change the ink bottle whereas in the IBM device this is a maintenance function.

The Siemens device is a terminal printer designed for any application where good quality print and silent operation are required; it will be offered with Siemens' own Textsystem 580 word processor.

Other advantages of the ink-jet technique are that the head lasts much longer than that of a matrix printer and, like all matrix devices, it is easy to alter the character set. OEM prices are between DM6,000 and DM7,000, £1,500 to £1,800 per unit.

Meanwhile ICL has at last formally announced the Siemens ND-2 laser printer, as the ICL LPS 14. Unlike Siemens, which markets the ND-2 to its own customers as the 3352, ICL is not offering direct mainframe connection for the LPS 14.

The ICL system runs offline with a 1600 bpi 9-track tape unit, and is controlled from a video terminal backed by floppy disc drive for control programs and diagnostics, and optional printer for hard copy of messages displayed on the screen.

Utilities have been written to enable 2900 users running under VME/B and DME, and 1900 users, to use the LPS 14: there is no VME/K support because only large system users are likely to want the LPS 14, which costs about £200,000.

ICL's plans to adopt the Siemens printer were exclusively foreshadowed in Computer Weekly two years ago (October 21, 1976).

Second $20m order for Level 6/23s

EMPHASISING the growing attractions of the Honeywell Level 6 minicomputer line, the company has just been awarded a second $20 million order for 1,000 of its new low-cost bit-slice Level 6/23 processors.

The order comes from General Computer Corp of Macedonia, Ohio, which wants the minis for a pharmacy automation system. It follows an order in June, also worth $20 million, from the Brunswick Recreation Group, which is designing a system for automating the running of ten-pin bowling leagues around the 6/23.

GCC will program the computers to enable them to be used to automate functions associated with making up drug prescriptions and for record-keeping. They will be supplied with stored data on both generic and brand-name drugs, and associated state and federal regulations.

Drug stores will be offered the fully-programmed system for $28,900.

The 6/23 was announced at Sicob for CII-HB territories, and will be launched in the UK shortly.

Adapso wants data flow law changes

LAWS and agreements on regulation of international data flows should be made extensible to cover manual files as well as computer files, according to Adapso in the US.

Philip Onstead, of Control Data, put this view to the subcommittee that is formulating US proposals for an international pact.

Onstad also proposed that organisations processing data, such as bureaux, should not be responsible for the actions of their users in handling data over which the bureaux have no control.

The regulations as at present formulated, he said, do not make this clear.

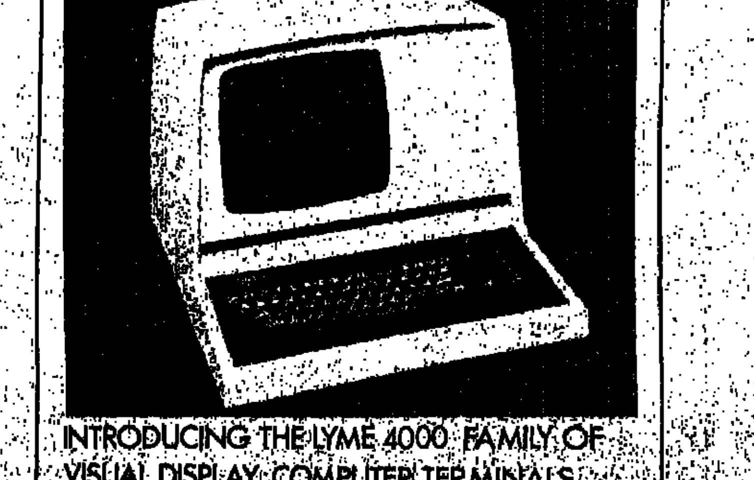
The Adapso view also is that governments should encourage the greatest possible free flow of information, and therefore should protect privacy by enforcement after the fact and by private right of legal action rather than by licensing, regulation, or clearance procedures.

Survey of European PTT plans

DETAILS of 13 European PTT plans are tabulated in the survey Public Data Networks published by the Eurodata Foundation for [illegible] available in Europe over the next five years.

The information is presented as a description of each country [illegible] tables of five types of planned service.

The types of service covered are synchronous and asynchronous circuit switched, packet [illegible]



INTRODUCING THE LYME 4000 FAMILY OF VISUAL DISPLAY COMPUTER TERMINALS

- 4000 character page with 1920 characters viewable at any one time
- 64/96 character set
- Switchable transmission speeds 75-9600 bps
- HDX/FDX
- Dual interface — RS232C and 20 mA current loop
- Protected areas
- XY Cursor addressing
- 12 x 7 dot matrix upper and lower case
- Character delete and insert
- Up to 16 dedicated function keys
- One off and volume discounts
- Total British design and manufacture

Lyme Peripherals Limited, 2 Avenue Court, Farm Avenue, London NW2 2HT. Tel: 01-452 0490.

Tough judge takes over marathon anti-trust suit

THE new judge presiding over the Justice Department's four-year-old anti-trust suit against AT&T is turning out to be much tougher than the previous judge appeared to be, Washington observers agree.

In a legal opinion issued last month, Judge Harold Greene reaffirmed the Justice Department's right to sue the Bell System, and issued several orders intended to speed the case to trial.

With a new judge on the scene, AT&T again brought up the argument that the issues raised by the federal "trust-busters" were matters to be resolved by its regulatory overseer, the Federal Communications Commission, rather than the US courts.

Judge Greene was assigned to the case in the spring when the former judge, Joseph Waddy, became ill. Following Waddy's death in June, Greene was officially named the new presiding judge. Waddy had also ruled that the courts, not the FCC, had primary jurisdiction over the case, which seeks to splinter the Bell System.

In his first major orders to the two parties, Judge Greene set stringent timetables for the pre-trial phases of the legal process. He ordered both parties to complete the discovery portion of the case by April 1, 1980.

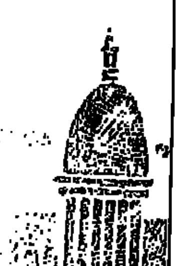
The judge also ordered AT&T to turn over to the Justice Department the documents it had already made available to MCI Communications Corp and Datran in those private anti-trust suits.

Additionally, Judge Greene ruled that in AT&T's discovery efforts, it cannot include as plaintiffs any independent regulatory agencies such as the FCC.

If such were the case, AT&T would be able to subpoena documents from those agencies as well as from the Justice Department.

AT&T's chief anti-trust counsel, Harold Levy, claimed that the judge made "some serious errors" in his recent opinions and orders. In particular, he said, Judge Greene may eventually be found wrong in his conclusion that his court has jurisdiction over the entire case.

WASHINGTON REPORT BY CAMERON DAVIS



So what's the difference between data processing and datacoms?

THE regulatory squabbles in the US over what's data processing and what's data communications "are but pimples on the face of the future," chides Dr Anthony Oettinger, director of Harvard University's Program on Information Resources Policy. "The users, the public — those folk we purport to serve — don't know the difference; nor do they care. The fact is, there are no distinctions."

"It would be nice," Oettinger suggests, "if Congress could look the other way for a while and let the suppliers and businessmen battle it out."

Guest speaker at the Data Processing Management Association's monthly information policy forum in September, the Harvard professor said that what is needed from America's decision-makers is not "theological exercises in drawing boundaries," but the development of "a basic, national goal for information distribution."

"Information has an importance that is basic to all activities," Oettinger said. He added that it is one of three basic resources of life, the other two being materials and energy.

While organisations in the US presently have no-one in charge of information resources, Oettinger contends that this situation will soon change.

"It isn't far off until the aggregate information costs to an organisation will be large enough to command the attention of top management, much in the same way as top management eventually got involved in computer activities." When that happens, he predicts, the debates over the relative differences between computing and communications "will look like mere fireworks on the Fourth of July."

He pointed out that certain institutions, the US Postal Service for one, may find it difficult to adapt to the changing times. The government may protect them for a while, he said, but not for ever. "Hanging on to old habits may simply leave you hanging."

OETTINGER . . . "let suppliers and businessmen battle it out."

IBM fights AT&T over new net

THE beginning of what promises to be a long and controversial debate has formally begun. At issue is whether or not AT&T will be allowed to offer the highly touted Advanced Communications Service.

In the opinion of IBM, the answer is No — at least, not within the present regulatory and legal environment.

In a 46-page filing with the Federal Communications Commission, submitted under the FCC's request for public comments, IBM said that the FCC should reject ACS as a tariffed communications offering.

Because ACS would constitute a commercial data processing service, IBM argued, AT&T cannot market it as a regulated common carrier offering. Neither can the Bell System market ACS in the competitive DP environment, IBM pointed out, because AT&T is confined to regulatory offerings under terms of the 1956 Consent Decree.

At the same time IBM was logging its written remarks with the FCC, the company's chief scientist was publicly presenting IBM's position in an address before CompCon '78 Fall, the IEEE Computer Society's annual Washington conference.

Delivering the technical keynote at the September show, Dr Lewis M. Branscomb said that in the sense that the consent decree prevents AT&T from entering markets that are not regulated, "the anti-trust decree has an anti-competitive effect." If it were removed or revised, the IBM scientist added, AT&T could then compete on an equal basis with others in the unregulated services market.

Clearly the thrust of IBM's position is to goad AT&T into seeking revisions to the consent decree that settled a Justice Department anti-trust suit against the Bell System.

In its filing with the FCC, IBM stated, "The solution to this problem is not to continue to distort regulatory policy in order to circumvent the decree. The solution is to change the decree to allow AT&T to offer non-monopoly services and equipment on an unregulated basis."

In any event, IBM's filing continued, "The decree should not be allowed to continue to prevent the establishment of a rational regulatory policy." In IBM's opinion, such a "rational" policy would be for the FCC to regulate only the pure transmission facilities, leaving applications-oriented services and products outside the regulatory umbrella.

Dr Branscomb further explained this point for CompCon attendees. "If all the add-on facilities in ACS, beyond Dataphone Digital Service, were left totally unregulated and provided to the customer in a competitive market-place, the value-added services provided by ACS could succeed or fail against other service alternatives."

"If such were the case," Branscomb added, "the cost of the transmission facility for ACS would then be the standard price that DDS charges all its customers. And anyone, carrier or not, should be able to offer an ACS-like service built on the resale of DDS facilities."

BRANSCOMB . . . "the anti-trust decree has an anti-competitive effect."

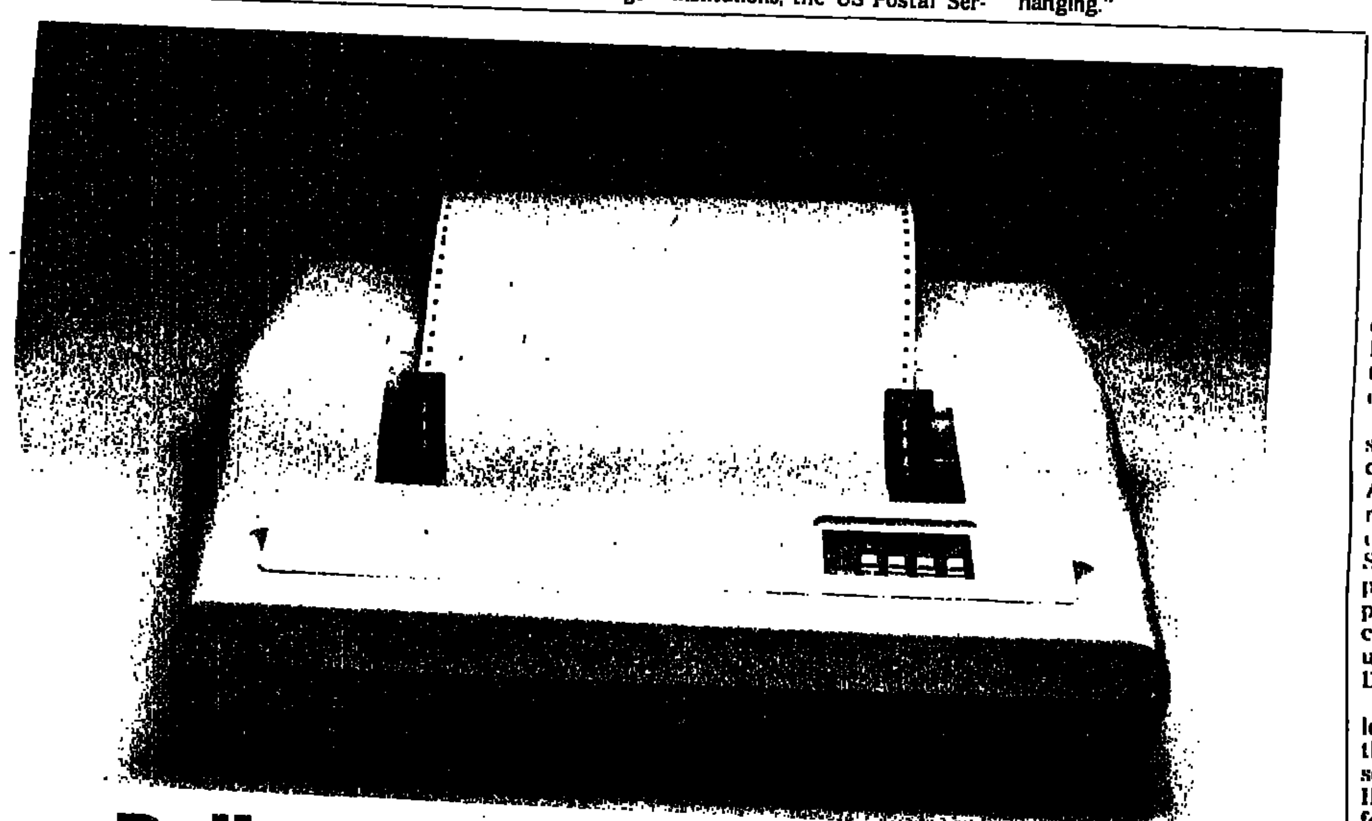
According to Branscomb, "ACS is clearly an entrepreneurial venture which has substantial technical risk, moves far down the path toward the offering of data processing services by a monopoly carrier, and in any case, will cost the Bell System a very substantial amount of money." The fact that ACS is to be built on DDS, the IBM executive claimed, should indicate to federal regulators that there is a clear boundary between what could be regulated and what could be left unregulated.

Branscomb's remarks on ACS at CompCon were part of a broad appeal for decreased regulation of telecommunications in the US.

"While one can specify the general characteristics of the basic telecommunications services that are needed, the details of network structures, provisions for network control, and the kinds of application systems must remain open to innovation to ensure the most rapid possible solution to all the problems involved," he said.

Branscomb noted that when Mao Tse Tung found that excessive centralisation did not work, he adopted the policy, "Let 100 flowers bloom."

Federal regulators should heed Mao, he said. Given a healthy policy environment, the users can wander through the fields of possibilities, picking the desirable flowers and leaving the undesirable weeds to wilt.



Bells and whistles standard.

When you buy our 300 Series Ballistic™ Printer, there's one thing we won't offer you much of. Options.

Because we made most of them standard on the 300. And lowered its price, too.

NOT MANY OPTIONS. BUT A LOT OF STANDARDS.

The new 300 Series Ballistic Printer is a low-cost, 180 cps matrix printer with a built-in microprocessor. It gives you 15 switch selectable form lengths, 15 perforation skips over formats, and full horizontal and vertical tabulation control. Space and blank character compression. Interface control for serial, parallel, or polling and addressing operation. X-ON, X-OFF, capability. Plus a non-volatile forms retention system that retains these programmable settings when power to the printer is turned off.

The 300's character buffer is optionally expandable to 2048 characters. With it, the printer can fully buffer a 1920 character CRT screen of data without waiting for the screen to transfer to the printer on a line-by-line basis.

THE 300 HAS A GOOD HEAD ON ITS SHOULDERS.

Like all our Ballistic Printers, the 300's dependability originates with its ingeniously simple, patented Ballistic Print head. Instead of moving cores attached to the wires, it uses small armatures that propel its matrix wires in free flight to the platen.

This revolutionary principle greatly reduces drag. Minimizes wire lip wear. Eliminates clogging with inks, dust, and paper fibres. And most importantly, significantly increases head life.

When the head finally does wear out, you can replace it yourself. In minutes. Without a single service call.

IT HAS PRACTICALLY EVERYTHING. EXCEPT A BIG PRICE TAG.

The 300 Series has a full 96 ASCII character set, with up to 128 printables optionally expandable to two sets of 128. Which makes it great for bilingual applications. It's even got an elongated character capability, and 10 pitch with 12 and 10/26.5 dual pitch options. Not to mention 100% duty cycle operation.

The 300 Series Ballistic Printer is just part of the new Lear Siegler range of high technology computer products.

Contact us or your local distributor for full details.

300 SERIES LSI

Tougher in the long run

LEAR SIEGLER INC. Electronic Instrumentation Division 207 Frimley Road Camberley Surrey United Kingdom Telephone (0276) 66028

LEAR SIEGLER AUTHORISED DISTRIBUTORS:

Austria Micro Automation Rosthorngasse ☎ 0222-222406 Finland Jertec OY Helsinki ☎ 3580 585133 Denmark Glydendal Copenhagen ☎ 45-1 547152 Iversen & Martens Copenhagen ☎ 45-1 262294 France Technology Resources Paris ☎ 33-1 747 7051 Benelux Computeo BV Aalst-Waalre ☎ 31 4904 5865 Israel Information Systems Ltd Tel Aviv ☎ 972 3 228174 Italy Stelit Rome ☎ 39 6501 1644 Mactronics Milan ☎ 392 3536041 Norway Kjell Bakke Strommen ☎ 711872 South Africa Tomnios Pretoria ☎ 27-12-48-3314 Spain Specific Dynamics Madrid ☎ 34-1 403 03 62 Sweden Datametrix Ab Sigtuna ☎ 46-760 51655 Switzerland Rotronic AG Zurich ☎ 41-1-52-32-11 West Germany TDC Data Communications GmbH Eschborn ☎ 49 6196 48740 United Kingdom Gamma Telecommunications Systems Ltd Wokingham ☎ 982 791384 Penny & Giles Data Recorders Ltd Christchurch ☎ 042 52 71511 Peripheral Hardware Ltd West Molesey ☎ 01-941 4806 Pericom Data Systems Milton Keynes ☎ 0908 564747

Separating good times from bad

THE stock market has failed once again in its assault on the mythical 900 barrier. That boundary, which is believed to separate good times from bad, is a number on a scale called the Dow-Jones Industrial average, an index of America's blue chip stocks. While the number is derived from the values of shares in only a handful of companies, these key industrial corporations are said to be indicative of the overall state of American industry. Simultaneously, IBM failed to sustain a share value higher than 300 and, having reached that plateau, retreated 15 points in one week.

NEWS FROM AMERICA BY HESH WIENER

The causes of the decline are not within the companies themselves — IBM and many of its fellow members on the Dow Jones blue chip list are likely to show good profits — but the state of the American economy in general.

Difficulties that seem beyond the ability of the present Administration, and perhaps any other Administration, continue to plague investors. Chief among these worries is inflation, which shows every sign of continuing apace. Other worries come from political hot spots too numerous to list exhaustively, including Iran, Israel, Central America and Southern Africa.

Optimistic stock analysts will hope that American industry follows the example of Muhammed Ali, whose impressive boxing performance stands as a testimony to the power of experience and determination. Like Ali, the American computer business has great strength: it seems to defy adverse times when other industries succumb to the general malaise.

Pessimists, whose ranks apparently include most investors these days, continue to await signs of continued growth in corporate profits, and cite economic forecasts pointing toward the possibility of a recession that had appeared on the horizon some months ago and now has drawn closer.

The one economic factor whose impact may be felt by *many industries is the imposition of wage and price controls.* Harry Edelson, computer stock analyst at Drexel Burnham Lambert, believes that such controls could be imposed on a voluntary basis. He expects that any government guidelines will attempt to hold price increase to 4% or 5%, while wages would be permitted to rise some 6% or 7%.

If controls are instituted, the computer industry may be in the sector of the economy least affected. Profits in high technology products derive from innovation, and prices for equipment fall steadily as new circuits become available.

Further, as Gideon Gartner, Oppenheimer & Co's chief commentator on IBM and other computer issues notes, IBM will be shipping an enormous amount of hardware to fill a very long list of orders. This should generate great profit for the company, based on past performance. Further, the industry giant is prepared to announce several computers that are said to be ready for production.

Gartner remains confident in the prospects for computer companies despite the reluctance of investors to bid up share prices. He believes that sales and profitability will go on rising.

The strongest argument against Gartner's theories come from those who weigh external factors more heavily than internal ones. If the sellers are strong, the bears reason, but the buyers are weak, the only way to maintain sales is to cut prices and, therefore, profits. When the economy turns up, companies whose customer bases have grown will serve a profitable aftermarket. That time, say the cautious investors, will be the time to buy stocks.

The most plausible predictions seem to take into account both inside and outside factors. In general, the moderates believe, the stock market will oscillate over a range of 875 to 900 on the Dow-Jones average. Business plans are adequate to support the range of economic forecasts deemed most likely to be fulfilled and, with elections scheduled for November, the Administration will use only traditional economic policy tools during the forthcoming weeks.

These moderate voices will not comment on the longer-term prospects for American stocks, nor on the economy. Too much depends on the actions of foreign governments, the psychology of the investment community and the effectiveness of President Carter's influence.

The factors to watch, particularly if wage and price controls are implemented, include plans for capital spending, energy costs and consumer products sales.

Capital spending, which includes monies allocated for data processing equipment, has been lower than predicted so far this year, according to McGraw-Hill, the publisher.

Unfortunately, the list of events that could hurt business is much longer than the list of events that could help business, at least for the short term. The best thing that could happen is not necessarily for the US somehow to avoid trouble. Rather America, like Muhammed Ali, must stand up to some challenge and, after a struggle, emerge victorious.

Changes loom in South African investments

PITTING a computer against the giants of American banking, a tiny organisation based in New York's financial district has begun a process that may lead to changes in American investments in South Africa. The non-profit organisation, Corporate Data Exchange, uses a DEC PDP-20 system owned by Columbia University to sort through the inter-relationships of various businesses and then typesets the results using an offline high-speed Xerox printer.

The group's most recent study has determined that US investments in South Africa are far more extensive than those previously revealed by Senator Dick Clark's investigation, published last January.

Banks and investment companies need CDE's findings, which are among the best financial studies published in America, to help guide their investments. The differing motivations behind CDE's efforts and those of some of the organisation's customers have become just another irony of business.

CDE, with offices directly across the street from AT&T's financial district headquarters, is using the proceeds from its sale of already-completed studies to finance new computer-based analyses of America's underlying financial structure.

Among the loans detailed in the CDE South African report are several million dollars for Honeywell computers and electrical power equipment supplied by the Arizona Bank; NCNB Corp, which financed $200,000 in Interdata minicomputers; Philadelphia National Bank, which has underwritten $700,000 in computers; and other loans totalling more than $2,500 million.

Memorex jurors disagree with federal judge's ruling

THE decision of Federal Judge Samuel Conti in the Memorex suit against IBM may have settled, for the moment, some anti-trust issues. But it has raised other questions which could lead to drastic changes in the way similar cases proceed in the future.

In reaching his decision that IBM had not violated anti-trust laws, the judge stated that cases such as Memorex v. IBM were beyond the ability of a jury.

At the time, several jurors had agreed with the judge, but subsequently most of these jurors changed their minds. The jurors stated that they misunderstood a key instruction provided by the judge, one which might have led to a verdict rather than the indecision that brought about Judge Conti's ruling.

Judge Conti had said, when asked by the jury, that a compromise on the decision was possible if the jurors could not agree to all of the plaintiff's allegations. Yet the jury felt that the judge had indicated that no compromise was permitted, and that unanimity on all the issues of the case was required for a verdict.

Memorex and its attorneys were dismayed by the court's decision, and announced intentions of appealing the ruling. As part of their appeal, these attorneys took depositions from several jurors which indicated that the judge might not have made his instructions clear.

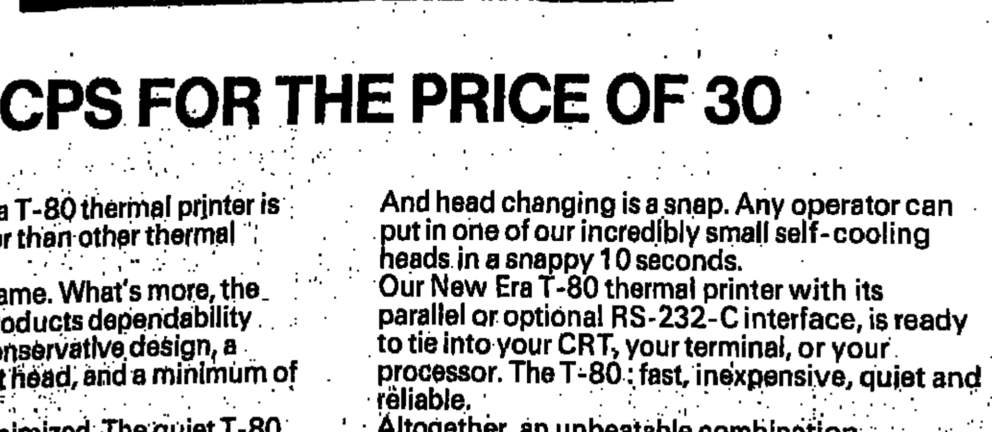
"I definitely do not believe that a case of this importance should be tried by a judge alone," said juror Rockwood F. Adams in a sworn deposition. But that is not what Adams said in the questionnaire he filled out for Judge Conti, in which he said that a panel of experts should rule on the issues.

"At the time I filled out the questionnaire," Adams stated, "I was still feeling frustrated because after a long deliberation we had been unable to agree."

Another juror, Albert Bratovich, also went through a change of heart. He had stated in court that a jury should not decide this case, but in filling out a questionnaire for the court he wrote that he preferred a jury deliberation.

Explaining the actions of the jury, Bratovich stated, "We were unable to come to a decision at the end of our deliberations, not because of our inability to understand the issues or the evidence. Instead, we were unable to come to a decision because nine members of the jury, including myself, honestly believed that a verdict should be rendered for Memorex and two members of the jury honestly believed that a verdict should be rendered for IBM."

Juror Thelma E. Carey stated that she felt "Judge Conti had seriously underestimated the intelligence and competency of the jury." Ms Carey had stated in court that a judge should decide this case, she stated, on "frustration" and one that she reversed in filling out a questionnaire for the court and in her sworn statement. She also stated that she believed Judge Conti "appeared to show bias toward IBM".



DATAPRODUCTS NEW ERA T-80 THERMAL PRINTER

80 CPS FOR THE PRICE OF 30

Dataproducts' New Era T-80 thermal printer is nearly three times faster than other thermal printers.
Yet it costs about the same. What's more, the T-80 offers you Dataproducts dependability assured by a smartly conservative design, a unique solid-state print head, and a minimum of moving parts.
Noise, too has been minimized. The quiet T-80 hums at 80 cps, so it can be seen but barely heard

And head changing is a snap. Any operator can put in one of our incredibly small self-cooling heads in a snappy 10 seconds.
Our New Era T-80 thermal printer with its parallel or optional RS-232-C interface, is ready to tie into your CRT, your terminal, or your processor. The T-80: fast, inexpensive, quiet and reliable.
Altogether, an unbeatable combination.

UNITED KINGDOM: Dataproducts International Inc., "Sterling House", South Street, Reading, Berks, RG1 4QT, England. Tel: Reading 585723. Telex: 849227

EUROPEAN MANUFACTURING: Dataproducts Dublin, Greencastle Road, Coolock, Dublin 5, Ireland. Tel: 311668. Telex: 5183

AUSTRIA: Dataproducts Handelsges. mbH. Hintere Zollamtsstrasse 9/32, A1030 Vienna, Tel: 75 34 52. Telex: 875669

THE PRINTER COMPANY

FRANCE: Dataproducts International Inc. 1, Rue de la Tour, Centra 252, 94576 Rungis Cedex, France. Tel: 687-17-07. Telex: 204864.

GERMANY: Dataproducts International, GmbH, Darmstadter Landstrasse 199, D-6000 Frankfurt. Tel: 681034, Telex: 416344.

ITALY: Phoenix SRL (C. Tiriolo) 00197 Rome, Via G. Pezzana 85. Tel: 80 21 84 Telex: 61316

CORPORATION HEADQUARTERS. Dataproducts Corporation, 6219, De Soto Avenue, Woodland Hills, California 91365, U.S.A.

Automated office— where are the boundaries?

MARKETVIEW By Fred Lamond

The Automated Office has come to the forefront of computer industry debates and conferences during the last 12 months. It has become sufficiently important for the French to coin their own term for it: "La bureautique". According to American consultants Booz, Allen and Hamilton and some other observers, office automation is a much broader concept than mere word processing. It embraces also computer controlled private automatic branch telephone exchanges, teleprinter and facsimile document transmission systems, office photocopying, duplicating and printing systems, microfiche and microfilm document storage and retrieval systems, even office environmental control and security systems. Yet at the same time it excludes data processing.

This is no mere academic issue. On the basis of this highly selective definition some US ...tions are grouping all the ... what is considered office ... under Administrative Manage... ...s and keeping these separate ... ...ocessing Management

...arketview, FRED LAMOND ... usefulness of this new umbrella ... the validity of its inclusions and ...

ALTHOUGH the term "office automation" is a recent umbrella concept it covers a variety of equipment that has been available for several decades.

Private branch telephone exchanges, both manual and automatic, have been used in offices for internal telephones and for lines to the public telephone network for almost as long as the telephone network has been in existence, certainly for well over 70 years.

Word processing systems have been offered on the market at least since Friden launched its paper tape driven Flexowriter in the late 1950s, though at that time they were called simply automatic typewriters.

Office duplicating and printing systems have been in use since the 1920s, office photocopying systems at least since the 1950s. The main revolution in photocopying, the introduction of xerographic dry copying to replace chemical photocopying processes, occurred 20 years ago.

The telex network spread throughout the world in the 1950s, and few important offices are without their telex machine. Facsimile document transmission is popular in the US, but has taken longer to penetrate the European market, though it is now being used increasingly in some Continental countries, notably West Germany.

All these systems and services have hitherto evolved separately from each other, and are offered by different groups of manufacturers.

Telecommunications equipment manufacturers like CIT-Alcatel, GEC, ITT, Philips, Plessey and Siemens dominate the PABX and telex markets in Europe, typewriter manufacturers like IBM, Olivetti and Olympia the word processing market. Rank Xerox has dominated the office photocopying market, Addressograph-Multigraph and Rotaprint the office offset-litho printing, Gestetner and Roneo the stencil duplicating markets.

So what has happened in the last two years to make it suddenly useful to group these very diverse and specialised equipments under the office automation heading?

The answer is stored program computer control, which has now become cheaper to produce and more reliable than the older electro-mechanical relay technology in office PABX systems, and cheaper than hardwired control electronics in word processing systems.

Thus the new breed of computer controlled communications and exchange systems, such as the IBM 3750, ITT 4000 series, CIT-Alcatel Citel and Citedis, GEC SL-1 and Plessey PDX, can not only switch internal telephone and telex lines with each other and with external PTT lines, but can also translate two or three-digit abbreviated dialling codes into full nine to 14-digit STD or ISD frequently used numbers and signal these to the PTT exchange.

Their "follow me" facilities allow any internal extension user to take his extension number with him to a different office permanently or temporarily simply by entering a code on his handset keyboard.

They can also monitor and account for the outside calls originated from each internal extension, and allocate certain incoming calls to any free extension out of a predefined group, say one of a number of order taking telephone operators.

The IBM 3750 goes even further and can monitor smoke detectors and office environmental control sensors, alter the settings of air conditioning and central heating systems in response to these readings, or alert security personnel or switchboard operators to abnormal conditions. It can also record the readings on employee attendance time recording terminals, check the identity of employees using magnetic identification badges and control entry to particular areas.

Some of the latest micro...ssor driven word processing systems show similar signs ... bursting out of traditional ...daries. They now have in...al memories of up to 16K or ...64K bytes, and between the ...tial key entry and final ...nted output store texts on ...dom access diskettes instead ... paper tape or magnetic tape ...ssettes.

Once a text is thus held electronically, it can be used in a variety of different ways, of which typing in its final and corrected form on the word processing system's own daisy wheel printer is only one. If it is a text destined to be printed, it can be transmitted on diskette, magnetic tape cassette or even line to a photocomposition machine for automatic preparation of a printing master plate without any further manual keyboarding. Thus word processing and office document printing are beginning to converge.

When a word processing system has an optional communications adapter, it can also be used to transmit a letter or memo electronically to a compatible system in the office of the intended recipient.

There are still some problems to be overcome for such word processors to handle mail between different companies, notably the problem of how to record legally binding signatures. But this method is used increasingly for the transmission of internal company memos, both within one office, and between offices of the same company at different locations.

Thus the synergy: Word processing plus communications products equals electronic mail, annexing the greater part of the province that was previously that of the telex machine.

When a large company has a private telephone line network linking its different regional and national offices, the use of communicating word processors for internal inter-office memos ...s it not only to save time, but also money since it can employ its underused telephone network overnight for correspondence that would otherwise ...e cost it postage charges.

This is only a beginning. In the US, Xerox has delivered its prototype "office information system of the future" to the White House for evaluation. The workstation includes not only the now common keyboard ..., 16-bit minicomputer and ...ing disc storage, but also a xerographic printer, which is in effect a Xerox photocopier for display screen images.

If the print quality allows xerographic printers to displace impact printers from word processing systems, then they will be able to receive and output not only alphanumeric character streams from distant word processors, but also facsimile document images.

They will only need the addition of a xerographic document reading unit to take on the functions of communicating facsimile transmitters, and if the document reader and xerographic printer are connected they will be able to act as local copying machines.

With such systems the day of the "multi-purpose office workstation", forecast by David Butler of Butler, Cox and Partners, will have arrived, although it will be two years or more before these systems are on the market. However, their advent is near enough for office planners to start considering their use.

The DataText IV shared-logic word processing system from General Computer Systems (UK).

If computer controlled PABXs, communicating word processors, facsimile document transmitters/receivers, and office photocopiers are made the responsibility of a single office manager or administrative management services section, then it will be possible to ensure that the word processors can exchange data with each other and interface to the PABXs, and that the transmission standards of facsimile document transmitters/receivers are equally compatible.

However, if the word processor seems likely to converge with the facsimile transmitter/receiver and the office copier over the next two to three years, it has already begun to converge with the intelligent computer terminal and transaction processing minicomputer.

The hardware system components are almost all the same — control microprocessor or minicomputer, backing diskette or cartridge disc depending on online storage capacities required, alphanumeric input keyboard; single or multiline display screen; and a printer.

Text editing software required on word processors is required on any programmable computer system to amend and maintain its source programs. All that is required to turn any business minicomputer into a word processor is an upper/lower case character set and maybe a daisywheel printer. All that a word processor needs to be useful as a business minicomputer are arithmetic calculation facilities.

The leading business minicomputer manufacturers are recognising this and have entered the upper end of the word processing market with variants of their leading business minis. IBM General Systems with its Word Processor 32; Digital Equipment with its Datasystem 310W and Word Station 78; Wang with its WP series; Four Phase with its ForeWord software on its System IV series; and GCS with DataText on its System 2100.

At the upper end of the market IBM has now expanded the horizons of office systems with the 3730 Distributed Office Communications System, DOCS, which is promised for next year.

The obvious convergence between accounting routines and word processing systems makes the attempt by some US companies to exclude data processing from the office automation concept surprising. Consultants Booz, Allen and Hamilton are of this school and their theoretical justification for taking this line is worth examining.

Data processing, they say, is heavily concerned with processing the content of messages and decisions based on content are a frequent occurrence in DP programs: "IF X = C, THEN DO A". User programmability is thus an essential feature of systems of all sizes.

All branches of office automation, on the other hand, are only concerned with message transmission, copying, duplicating.

Thus, office automation systems need not be user programmable, and the DP department's skills are irrelevant to the needs of the automated office. Better therefore to keep the two separate.

This distinction is largely phoney. Whatever Booz, Allen and Hamilton may say, the computers controlling telephone exchanges and word processing systems will take frequent decisions. The restricted access facility on the latest exchanges for instance, allows certain high-level executives to restrict incoming calls to their extension to those from certain named extensions.

When switching calls to such extensions the control computer has to go through a decision making routine.

When "personalising" a direct mail letter, many a word processing system will have to decide to include or delete certain paragraphs depending on whether the addressee is a Mr, Mrs, Miss or Ms, or is simply coded as belonging to one or more of certain predefined addressee groups. Inclusion of certain optional paragraphs will also automatically lead to the inclusion or exclusion of certain other paragraphs.

Systems need not be user programmable

PABX and word processing system users will not admittedly normally have to learn Cobol or Fortran in order to operate their systems but then neither should the end users of the latest intelligent terminals and business minicomputers.

This is part of a universal trend towards the use of much higher level user languages throughout the industry, which is the proper answer to the falling price of hardware, which need no longer be coded so efficiently; and the rising costs of software, which make it desirable to make as large a proportion of any program general purpose.

Limiting users to the definition of one or two parameters, which set all the required switches in the device's general purpose program, is now the most sensible way to program an office payroll or stock control application.

What BAH and other US definers of office automation are really trying to say is that traditional DP departments, staffed by IBM 360 Assembler if not 1401 SPS veterans, have not yet learned this lesson. They should therefore be kept out of office planning if it is to evolve healthily.

This is part of the much broader revolt of user departments against the authoritarianism of centralised DP departments, who have tried for too long to subordinate user needs to optimum scheduling.

Where DP departments have acquired a veto over any department's acquisition of its own computers, the user departments' dodge has been to deny that certain systems were computer systems at all. "They're not computers, they're word processing systems, or PABXs".

There is only one valid solution to this problem. Wherever it exists, the central DP department's veto on the acquisition of distributed processing systems by user departments should be abolished, whether these distributed processing systems are intended for data entry, invoicing accounting or word processing tasks.

Office automation will be the big development of the early 1980s, but it must include and not exclude what has already been achieved by data processing.

If you think

key-to-disc system from the world's leading supplier, and it's not from Inforex, well...

Think again! About cost effectiveness: from Inforex you can get a complete three key-station system for under £10,000. Think delivery again: you could do away with punched cards by the end of the month. Think again about service: a reliable, well proven range backed by a national service team. Any way you think about it, Inforex offers the best available solution. The world's leading supplier, with over 4,500 systems worldwide, will take you from punched cards to key-to-disc (expandable to meet your most exacting requirements), to data management and to distributed processing with a compatible product range and the support to make it happen. Telephone Inforex at 01-863 8311, or send the coupon for full details to: Inforex Limited, Inforex House, Headstone Road, Harrow HA1 1PL.

INFOREX Data Management Systems

think again!

Please send me further information on Inforex key-to-disc

Name

Company

Address

Most companies buying computers don't know what they are doing

Recent surveys show that more than half of the companies buying computers have contacted only one manufacturer. This is strange, taking into account how large their investment is. Because we do not believe that anyone can be sure of the right choice without knowing what other firms can offer.

Big is not always best. Although Norsk Data is not among the biggest, our NORD computers have often come out first in the hard international competition.

With the NORD-10/S, associated peripherals and software programs, we can offer flexible and economic computer systems for most dataprocessing activities. A NORD computer system will never be too limited to meet new requirements. The initial installation can be extended as new demand grows. Give us a call and find out how we can co-operate.

Norsk Data

Lørenveien 57, Postboks 163, Økern, Oslo 5, Tel. (02)21 73 71/22 80 90.

Sweden: Norsk Data AB, Box 2031, 19402 Upplands Väsby. Tel.: 0760-86050.

Denmark: Norsk Data ApS, Øverødvej 5, 2840 Holte. Tel.: (02)42 50 85.

France: Norsk Data s.a.r.l., 64 Rue de Meyrin, 01210 Ferney-Voltaire. Tel.: 50 41 65 41.

England: Richard Norton (NORD) Ltd. NORD House, 17 Balfe Street, London N1. Tel.: 01-278 5501, Telex: 299537.

Norsk Data A.S develops, produces and markets NORD Computer Systems. The NORD systems have found extensive use in research and education, process control, data processing and networks; the application areas are continuously increasing.

Hebditch & Healey

The Technology of Distributed Systems

TIM PALMER REPORTS FROM SICOB IN PARIS

Central regional and local intelligence in Philips network system

The new terminal on the Philips PTS 8000 banking system, shown here, features recessed six-line plasma display.

A major new contender in the distributed terminal systems market is Philips, which launched its PTS 8000 system, shown here, on its stand at Sicob.

HOTTEST property from Philips at Sicob was the new PTS 8000 networking system, designed in France.

The PTS 8000 is a hierarchical networking system with intelligence at the central, regional and local site. The processor at the central site is a Philips P857 mini with up to 256K bytes of main memory and up to 600 Megabytes on disc.

P851 minis with 64K bytes of memory are used at the regional and local sites; the regional concentrators are backed by 6 Megabyte disc drives and the local controllers by floppy disc units. The terminals consist of a simple keyboard, display and 100 chps printer.

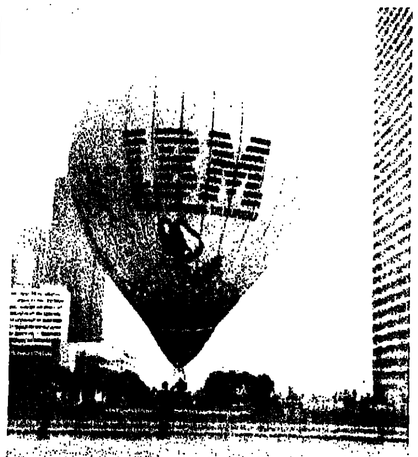
The HDLC protocol is used within the PTS 8000 network, but only bisynchronous host attachment is available at present. Connection to the IBM host is either via a 3705 front-end or direct channel, in which case the PTS 8000 emulates a tape drive.

SDLC and X25 connections are under development.

Philips has also added the P857 *mini* to the range of controllers available with the PTS 6000 banking terminal system, and other enhancements include a very compact keyboard, a new 6-line 40-character per line plasma display from Burroughs, a 120 chps bidirectional printer with front feed for A4 documents and passbooks, and a compact OCR reader.

Graphics added

OLIVETTI has added graphics capability to its P6060 desk-top computer to make a system which puts up a display of 390 lines with 560 points per line.



Shedding its rather dour Sicob image, IBM's office products division went up, up and away with this festive balloon tethered outside the La Défense exhibition centre.

Inside the exhibition, IBM set up an audio-visual presentation to put over the message that the 3750 telephone switching system can become the key to an intra-company electronic mail system as well as handling straight speech and data traffic.

The company revealed that it uses its own 3750 to distribute messages and letters produced on word processors to IBM locations throughout Europe over both leased and dial-up lines.

Datasaab introduces the Alfaskop System 41

OFFERINGS from Swedan's Datasaab included the new System 41 cluster terminal version of the Alfaskop display, and the D16/10 banking terminal system.

The Alfaskop System 41 (pictured right) is built around a Motorola 6800-based communications processor programmable in Cobol, cross-compiled on the host mainframe, TCP, Transaction Collection Package, and Alfaform, a form definition language.

Modules include an intelligent floppy disc controller, printers, badge readers and various keyboards, and a key feature is the ability to communicate with two similar or dissimilar hosts Presently available emulations are IBM 3274 and Univac UTS 400.

The new intelligent banking terminals on the D15/10 include local Motorola 6800s, and the branch processor is based on the venerable Datasaab D5 minicomputer.

SICOB BRIEFS

Personal touch

FOR the first time, Sicob featured personal computing, and an enthusiastic group of computer shops, clubs and suppliers showed their wares in the Sicob Boutique, a large cabin assembled on the open-air plaza outside the main computing floor of the exhibition centre.

The first French personal computer, the LX 500, was introduced by Logabax. Built around the Zilog Z80 micro and incorporating one or two mini-floppy drives, the LX 500 is programmed in Basic, and Logabax plans to open its own shops to sell it.

Univac is back

AFTER several years' absence, Univac returned to Sicob with the Intel 8080-based BC/7 small business computer, and promptly sold two of them to customers who saw the machine for the first time at the show. Selling on the strength of the Escort programming language and the Univac name, the BC/7 had scored 30 orders in France up to Sicob.

Powerful progeny

THE standard Micral processor from R2E now marries the Zilog Z80 microprocessor with the AMD 9511 fixed and floating point arithmetic unit to produce a processor which chairman Thi Truong says is as powerful as a 16-bit mini. Rueing the fact that no suitable French display is available, Truong now uses a VDU from Ball Brothers in the US Plans are afoot to add Pascal and APL to the Basic, Extended Basic, CIS-Cobol and Fortran available on the Micral systems. 2,000 of which have now been installed.

ROUNDUP

A summary of main news items which have appeared since the last Computer Weekly International news roundup on August 3.

Two successors for 370 likely after IBM split

LENDING weight to forecasts that IBM's 370 mainframe line will be succeeded by two separate series, the so-called E and H series, the company has split its mainframe design and manufacturing division into two separate units.

The lower end embraces the 370 line from the 115 to the 148 and the higher end the 158, 168 and 3030 series machines. Mainframe marketing is not affected by the changes.

The split is generally seen as a move on IBM's part to break the company down into more manageable pieces, and to promote more "creative competition" between different parts of it, as already exists between Data Processing and General Systems (CW, August 17).

THE Japanese government is to invest about £70 million over five years in developing operating systems to challenge whatever IBM may offer on its forth coming E and H series. It is also to offer tax incentives to help promote the development of unbundled software package sales and an investment plan for the peripherals and terminals industries (CW, September 21)

THE long-awaited Hitachi "super computer," known as the M-210, has been announced in Japan as the M-200H. Like Fujitsu's M-200, it comes with from one to four processors, each of which can address up to 16 Mbytes of main memory and has a 64K byte cache memory (CW, September 21).

THE US Court of Appeals has withdrawn Satellite Business Systems' operating licence on the grounds that the Federal Communications Commission should have held a hearing on the anti competitive effects of the SBS partnership between IBM, Comsat and Aetna Casualty and Surety before granting the licence in January 1977 (CW, September 21).

A THIRD earth station, in Salt Lake City, is to be added to Unicae's satellite communications network by the American Satellite Corp, which built and now operates the first two in Pennsylvania and Minnesota (CW, September 28)

THE American National Standards Institute has adopted with only trivial changes the minimal standard for Basic, ECMA 55, devised by the European Computer Manufacturers' Association and published in January this year. The ANSI standard, X3.60 1978 Minimal Basic, was published in July (CW, September 28).

CII Honeywell Bull, the French subsidiary of the UK's National Enterprise Board has won its court battle in Dallas, Texas with Mostek. The judge refused to grant Mostek a temporary injunction aimed at stopping Inmos from using Mostek's trade secrets, an injunction which he said would be based on "mere speculation or apprehension" (CW, September 28).

Unions object to S African sales

TWO ICL 2900s have been delivered to the South African Police "in the last few weeks." As a result, a meeting is to be held between unions and management at ICL at which the unions will express their opposition to sales to South African security forces (CW, September 28).

CANADIAN computer bureaux are worried that proposed legislation in Canada would allow banks to compete with them in providing data processing services. Proposed changes to the Bank Act are not specific enough in their stipulations, claimed Derek Price, president of the Canadian Association of Data Processing Service Organisations (CW, August 24).

COMPETITION for the daisy wheel printer in the word processing market is being introduced by Nippon Electric in the form of the Spinwriter, which has a print element shaped like a badminton shuttlecock. It is said to be capable of 55 chps (CW, September 28).

IN open competition with CDC, IBM, NCR and Siemens, ICL has won a £2 million order for a 2 Megabyte 2972 for the Abu Dhabi National Oil Co. The final choice was between a Cyber 172 and the 2972. An Adnoc spokesman said that one of the factors that gave the order to ICL was that it could provide back-up services and facilities (CW, September 7).

THE UK National Enterprise Board's Insac subsidiary may take an American partner as part of its plans for a US-based viewdata service. Likely contenders are AT&T, RCA or Western Union (CW, August 31).

AS part of a major shake-up of its US operations, Britain's mainframe company, ICL, is to close down five of its 11 offices by the end of the year and is to combine all its North and South American operations under a single vice-president (CW, August 24).

USERS of Honeywell Level 61/60 systems in the UK are starting to express concern about having to upgrade to a Level 62 if they want to go over 10K main memory. A particular cause of discontent is that their counterparts on the Continent can extend main memory to 96K bytes by upgrading to the Level 61/60-2, a machine not available in the UK and which is software compatible with the 61/60 (CW, August 17).

THE problems that delayed the opening of both the French Transpac and European Euronet packet-switched networks have been solved, a Logica spokesman told Computer Weekly. The problems lay in the CP-50 switch, developed by Philips' subsidiary TRT under a subcontract from Sesa of Paris (CW, August 10).

THE Pentagon is funding the development of the first compiler for a new systems implementation language based on Pascal. Called Euclid, the language is to be designed for writing systems software that must be verified. It is being written as a joint venture by Toronto University and APL specialists I.P. Sharp Ltd (CW, August 10).

SEEKING capital to expand its plotter and interactive graphics terminal businesses, Calcomp has put its OEM hard and floppy disc drive manufacturing operation up for sale and is discussing terms with several companies (CW, October 5).

WITH a view to moving into word processing, ITT has had talks with equipment suppliers on the subject of marketing their systems in the UK and Europe. One of the suppliers is Qyx, owned by oil company Exxon. ITT already markets the facsimile machine from Exxon subsidiary Qwip, and recently bought the printer manufacturer Qume, in which Exxon had a minority holding (CW, September 28 and October 5).

IN an effort to recover from a worldwide downturn in sales of its X-ray scanners, EMI has introduced a new range of five machines, including a low-price model for £136,000 and a "nutating" feature to reduce dosage (CW, October 5).

A 10 PER CENT power advantage over IBM's 3033 at the top end, 64K-bit memory chips from Fujitsu, and ECL-100K emitter-coupled logic circuit chips in the processor will be key features of the NCR Criterion 8600 line, due to be announced by NCR later this year (CW, October 5).

EEC software studies

THE EEC is to initiate "major studies" in the field of software portability, including proposals for a standard European systems implementation language, by the end of October. The studies, for which tenders were invited in July, also include an examination of the feasibility of a common software interface for minicomputers, and an investigation of the need for new software conversion tools.

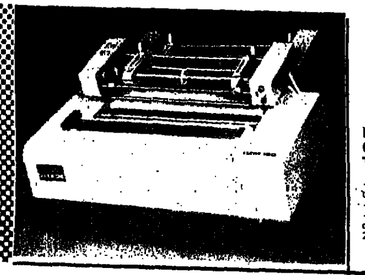
The projected European Systems Language, ESL, is intended as a portable tool for implementing software at a level between that of applications programs and the operating system.

Specific applications identified by the Commission include the construction of management information systems, database management systems, and information retrieval systems (CW, August 10).

MERA-METRONEX offers:

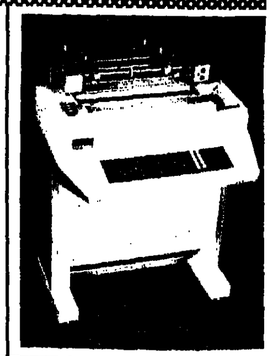
DZM—180 MATRIX PRINTER

—Printing speed—180 ch/sec
—7x7 dot matrix
—Paper width—4 to 14.5 inch/standard/
—Character set—64 character USASCII code/standard/
—CCITT V24 serial interface/option/



DZM—180/KSR Conversational Terminal

—Full or half duplex transmission mode
—Buffer capacity 256 ch
—Transmission speeds—110 or 150, 300, 600, 1200, 2400, 4800, 9600 bauds
96 characters
32 functions

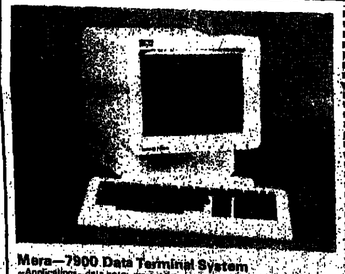


DZM—180/57 Conversational Terminal Unit

—Full compatibility with IBM 2740 terminal units
—Multiple status remote printing
Modem adapter.
Slanted print

Floppy Disk Drive PLx45D

—Media compatibility and data interchange between units and with IBM system 3741 and 3742
—IBM type 3740 compatible diskette
—Capacity—83 MBits



Mera—7800 Data Terminal System

—Applications—data entry, teleprocessing, conversational, distributed systems
—High configurational flexibility and adaptability
—Stand-alone and cluster configurations
—Local and remote configurations
—Features—identifiers, programmable communication procedures, data field format control, printer adapters, etc.

Software Service

System's programmers highly experienced in programing and designing systems which require deep knowledge of assembler and internal structure of the operating systems. All possess certificates issued by famous computer firms/e.g. IBM, ICL/

Anglo-Dal Ltd.
Chesterfield House
Bloomsbury Way
London WC1A 2TR
Phone: 01-405 4388
Telex: 23825

MERA

METRONEX

METRONEX
FOREIGN TRADE ENTERPRISE
OF THE UNION OF AUTOMATION AND
MEASURING INSTRUMENTS INDUSTRY "MERA"
AL. JEROZOLIMSKIE 44, 00-950 WARSZAWA, POLAND
P.O. BOX 198 TELEX 81 44 71
PHONE 26-22-21, 28-76-41

CORALNEWS

CORAL NEWS

'CORAL NEWS' takes over from the CORAL Bulletin as the medium of communication of CORAL information to existing and potential users of the Language to obtain wider readership than was possible with closed mailing. CORAL NEWS will appear a few times a year to provide users with up to date information, views and opinions. Items for inclusion should be sent to CORAL Users Co-ordinator, NCC Ltd, Oxford Road, Manchester M1 7ED Future issues will highlight particular aspects of the Coral Game.

Standardisation

CORAL 66 is being standardised by ISO's working group concerned with programming languages for industrial process control. The language is already an official UK defence standard.

ISO's support for CORAL 66 is important for users and system suppliers. Standardisation by wide discussion and publication should lead to more investment in the language, better availability and a rising number of trained personnel in the export market, system suppliers can confidently base products on CORAL 66.

Progress through ISO is gaining pace. At a recent meeting in London, the working group recommended that a specific body be charged with processing CORAL 66 for international Standardisation in accordance with agreed procedures. ISO accepted this and have acknowledged BSI's intention to do so. The Committee meets again in autumn 1978. Though standardisation may seem to be coming late in the language's life, there is no doubt that it will be of benefit to users and suppliers in the 80's.

On the United Kingdom scene, work is progressing well on a Draft Standard based on the Official Definition. Certain editorial changes are proposed and in November the BSI requested comment on them. Details are available from the BSI and Computer Weekly readers are invited to submit comments which should be sent by 15 April 1978.

CORAL Availability

Manufacturers and software houses continue to develop CORAL 66 compilers. From the four compilers available in 1969 the number has grown each year to the present level which covers 35 machine ranges and a further 7 are reported as being in development.

A list of the current compilers is shown in the centre pages of this newsletter. Recent additions include the Norcontrol compiler for MOD II and MOD IV released by Lesco, and TI 9900 by Systems Designers Ltd.

Bureaux

The list of bureaux offering CORAL 66 includes two London companies. DDP Network Services and Comshare who respectively process work on DEC10 and SIGMA. Two ICL 1900 Bureaux offer CORAL: Computerline in Weybridge and Compulot of Bracknell. Further north, there is RSRE in Malvern using a GEC 4080 and Datacell in Leeds on DEC10.

Compilers

There are now CORAL 66 compilers available for 35 machine ranges and 20 more compilers are under development. RSRE report that in addition 7 compilers have received official IECCA approval and there are a number of compilers awaiting approval.

Compilers are available on machines from the following manufacturers' ranges: CTL, DEC, Ferranti, GEC, Honeywell, ICL, Intel, Interdata, ITT, Konsberg, Marconi, Nord, Plessey, Prime, Rank Xerox and Smiths Industries.

The language is now available on all reputable mini computers and for most of the major mainframes.

Training

Courses in CORAL 66 are regularly being offered by several organisations including CEGB, Ferranti, GEC, NCC and SDL. The course notes of the NCC CORAL courses are available in paperback form for £3 and can be obtained from any bookseller or NCC itself. The course was developed as a result of the recommendations of the Education and Training Working Party of the CORAL 66 Group. On behalf of the Working Party, NCC are now preparing an Advanced CORAL Course for first presentation in the Spring of 1979.

Technical Notes

The Related Software Working Party has produced a standard for the Input/Output of character data in CORAL 66 utility programs. This document, available from the Royal Signals and Radar Establishment (RSRE) Malvern, defines a number of Input/Output calls at a low level so that program transportability can be achieved across a defined interface. The interface consists of fifteen procedures supporting character stream control and input/Output.

The Compiler Writers' Working Party recently reviewed a range of implementors' views and interpretations of CORAL 66. This collection of individual views is being circulated by RSRE to those with a known interest in implementing CORAL compilers.

User Groups

The urge to meet and discuss the language has not passed by the CORAL community. The British Computer Society's CORAL 66 specialist group meets about every 2 months from September to May. Last year saw attendances varying from 15-50 and this year's programme has got off to a good start. For your diary, its next meeting, on RSRE's MASCOT proposals for CORAL 66, is on 24 January at 2.00 p.m. at the Institute of Electrical Engineers, Savoy Place, London.

DEC also have an active user group for PDP11 CORAL 66 users. Any user of PDP11 CORAL 66 is welcome: contact Mrs. Wendy Cains at DEC Reading.

CORAL 66

Published by NCC on behalf of the Association of Military Users of CORAL 66 (AMUC)

PT7 TERMINAL SYSTEMS
advanced alternatives to IBM3270 and ICL7502
for details contact PT7 Sales
061-437 5391
Simonsway, Manchester M22 5LA
FERRANTI

COMPUTER WEEKLY INTERNATIONAL

MEGALEASING
70 UPPER RICHMOND ROAD
LONDON, SW15
Computer - Leasing - Leasing
Computer - Call us
01 874 3241, TELEX 27196

Bulgarian 100 Mbyte drive for Rjad users

FIRST models of a new 100 Megabyte disc drive from Bulgaria have now been installed with users of the Comecon countries' Rjad unified range of mainframe computers. However the East German Robotron ES-1040, approximately equivalent in power to the IBM 370/145, remains the most powerful system yet delivered, and the long-awaited Russian ES-1060 is still not ready for customer shipment.

So says Klaus Grützmacher, director of Robotron's export-import division.

In an exclusive interview with Computer Weekly, Grützmacher also revealed that Robotron has a co-operative agreement with Control Data. "Robotron is seeking to expand its mainframe business in Third World countries, and the idea is that, where appropriate, we will supply our processor, and Control Data will supply the peripherals," he explained. "But it is still in the fledgling stage, and no contracts have yet been signed with customers."

Robotron has no plans to market either the ES-1040 or the new ES-1055 in Western Europe. Two 1040s have been installed in India and two more are on order; one is on order for Iraq, and Robotron is seeking similar contracts in other third world countries.

The new Bulgarian ES-5067 100 Megabyte disc drive represents a significant advance in that the largest hitherto available in the Eastern bloc has been the 29 Megabyte ES-5061.

Deliveries of computers to other Comecon countries are decided on the basis of overall five-year plans. Robotron has built about 210 1040s, with 80 per cent being exported to other Comecon countries.

"East German users have to guarantee that they will make full use of the machine, and 1040s are on about four months' delivery. Foreign customers can be supplied in six to nine months," said Grützmacher.

Asked if, for example, a new government in Rhodesia decided on an automation program and wanted 20 systems, could Robotron deliver, Grützmacher said that 20 might be difficult, but that 10 to 15 could be managed.

"We all hope for a change in Rhodesia," he added with a smile.

First deliveries of the Robotron ES-1055 mainframe begin next year, and the specification of the machine, which originally matched the 370/148, has been upgraded so that it is now closer to the 158. The operating system is OS/ES or the new virtual OS/ES/VS, and the database management system is DBSR, which is said to be similar to IBM's BOMP, Bill Of Materials Processor, on the 360 line.

Racal £8m Australian contract

THE largest defence communications contract ever placed by the Australian government has been awarded to Racal Electronics.

Worth £8.8 million, the contract covers high frequency radio equipment which is transportable by lorry and plane. This will be made in Australia as well as in the UK and the US.

Australian Defence Minister Mr D. J. Killen said that the design and manufacture to be carried out in Australia would have a significant impact on other areas of the Australian electronics industry.

Racal chairman Ernest Harrison said he believed that part of the reason his company won the contract was because it had maintained a presence in Australia over a long period when no defence contracts were being awarded.

Unions meet in Vienna

AN international trade union conference on Computers in Employment is to be held in Vienna on November 17/18.

It is organised by the International Federation of Clerical, Commercial and Technical Employees, FIET, and the main aim of the conference is to seek international guidelines for the introduction of computer technology.

Two UK unions sending delegates are the Association of Professional, Executive, Clerical and Computer Staff, and the National Union of Bank Employees.

APEX says that it hopes to arrange a UK trade union seminar in conjunction with Sussex University on a similar topic.

Factory for S Africa's first 'home' computer

from Mike Mortimer in the Transvaal.

WITHIN the next two months a £170,000 computer factory is to be put under construction near Pretoria to produce South Africa's first "home grown" computer, which is returning to the Republic after four years.

It was designed originally by a group of seven South Africans headed by Ivan Socher, former managing director of an Anglo-American subsidiary, Computer Advances. But South African investment was not forthcoming in 1974 so the project was taken to the US where a backer was readily found in Computer Automation.

In two years, the system, designated SyFA, System from Africa, now Americanised into System for Access, has sold in a dozen countries including the Republic. Sales have topped $15 million with a recent order worth $10.3 million placed by a well-known insurance group.

Data Management Systems has acquired the local agency and has installed eight systems since February. Total sales are now worth R1.07 million.

Mel Cunningham, the DMS managing director, claims that the computer has a very high cost/performance ratio, being able to provide eight times more capacity per Rand than any competitors.

The cost of the basic 64K system is R42,000.

Apart from being a big boost for South African expertise, this development will eventually comprise 80% local content, the percentage already achieved being 24. Talks with European concerns have already been initiated with a view to local production of printers.

It is mandatory for French industry ministers visiting the Sicob exhibition to call in at the CII-HB stand, and current incumbent André Giraud duly dropped by. Giraud suggested to managing director Joan-Pierre Brulé that CII-HB's decision to manufacture the Honeywell Level 6 as the Mini 6 line in France posed a threat to members of the Club de la Péri-Informatique. Brulé (left) explains to Giraud (right) that he has got it all wrong. "We do not do much business with Mini 8," Brulé told the Minister firmly. "The threat to the Club comes from foreign competition."

Senior - level courses

THE changing face of DP is reflected in a major series of courses organised by the Paris-based consultancy and software house Sligos for October, November and December.

Typically of three days' duration, the courses are addressed particularly to the needs of management and senior systems analysts. Among a wide variety of topics to be covered are mini-based TP systems, microcomputers for data capture, APL, improving the effectiveness of DP, and a methodology for choosing a minicomputer TP system.

GA doubles profits

THE Anaheim, California-based minimaker General Automation more than doubled its profits in its last financial year which ended in July. Figures of $3.96 million were reported. Turnover was $98.4 million, an increase of 16.5%. Its UK subsidiary made £124,000 on sales of £2.26 million and GA has projected a 50% increase in turnover in this financial year.

CII-HB subsidiary of systems specialists

RECOGNISING that it has not been winning its share of large and complex computer system contracts, CII-Honeywell Bull has formed a new subsidiary which will become a repository of expertise in the complex systems area.

"The kind of systems we have in mind are ones involving hardware from a number of different divisions of the company," a spokesman explained.

"The problem has been that several managers were involved in deciding whether we bid for a particular contract. In the end the decision went right up to managing director Jean-Pierre Brulé, by which time it was often too late to put together an effective bid.

"The new subsidiary, capitalised at one million francs, will be staffed with all the necessary specialists to make its own decisions. It will operate throughout CII-HB territory, and was formed as a separate subsidiary for flexibility.

"It may happen that we collaborate frequently in the specialist systems area with one or more outside companies, and the structure we are establishing will enable these companies to take shares in the subsidiary."

INTERNATIONAL NEWS IN BRIEF

Israel offers 75% loans

UNDER the headline "How to sell duty free to the Common Market and US in one simple move," the Government of Israel Investment Authority is making major efforts to attract multi-national companies to manufacture in Israel. Citing IBM, CDC, GTE and Motorola as companies which have already set up there, the authority says that there are no restrictions on repatriating either profits or capital in dollars, nor on foreign ownership.

Grants and loans of up to 75% of the capital cost of new plants are offered, and attractive tax concessions.

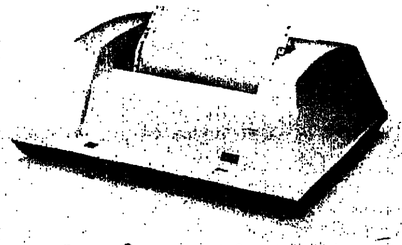
Holiday bookings

A CONTRACT for the provision and maintenance of holiday booking and flight reservation systems has been awarded to Cable and Wireless UK Services by Vingresor, a leading Swedish tour operator. A wholly-owned subsidiary of Scandinavian Airlines System, Vingresor will install the £120,000 system, known as Phobus, in its London office where it will supply all the necessary holiday and booking information.

Danish exchanges

TWO of Denmark's three telephone companies are to buy digital PABXs worth £4.5 million from General Telephone and Electronics. The companies, Jydsk Telefon-Aktieselskab and Fyns Kommunale Telefonselskab, have ordered GTD-120 stored program controlled exchanges in GTE's first sale of this type of equipment to a European telephone company. These exchanges serve up to 120 extensions.

The new 80 column printer with the impressive performance...



at an impressive £450

The DP 8000 prints the 96-character ASCII set in single or double width at 64 lines per minute. The unit operates bi-directionally to print a 9 x 7 matrix on multiple copy, pin-feed plain paper. One model accepts RS-232C or current loop serial data at baud rates switchable from 110 to 9600 and Parallel 8H data input at over 1000 characters per second. Standard storage capacity of 256 characters—optional 2048 character store for VDU dumps. Other features include Out of Paper Detector, Top of Form Programming and Skip Over Perforation Control. Manufactured by Anadex, the leaders in high-duty, low-cost printers.

Anadex Ltd. Doins House, Guildford Road, West End, Woking, Surrey GU24 9PW. Tel Chobham (09276) 6033. Telex: 858762 ANADEX G

RELIANCE COMPUTER LIMITED

FOR SALE:
IBM 370/145 — ½ Meg
370/135 — 256K
370/135 — 256K
2821-2 and 1403-N1
3333-11
3330-1 and 3 x 3330-1

TO PURCHASE:
IBM 370/135 — 512K
3830-2
1442-N1
3801-502
3350-A2F
3350-B2F
029-A22

Immediate delivery.
RELIANCE COMPUTER LTD
79 Commonside, Sheffield S10 1GF
Tel: 0742 668261 Telex: 547335

information integrity availability security privacy

the new international journal covering the technical, legal and social issues of computer-based information systems

Coverage includes:
•techniques
•legislation
•information systems
•working group activities
•case studies
•computer misuse
•organizational aspects
•current interest section

SPECIAL PRE-LAUNCH SUBSCRIPTION OFFER ONLY £30.00 per year.
Offer available until 31st August 1978

Further details from:
David Burt, IPC Science and Technology Press Ltd, 32 High Street, Guildford, Surrey GU1 3EW England
Telephone: (0483) 71661. Telex: 859856 Scited G

CHRIS PRIER
Asst. Classified Manager
01-261 8028

LONDON
Eddie Ferrer 01-261 8019
Mark Williams 01-261 8019
John Ferrer 01-261 8019
Monique Gibbs 01-261 8174
Janet Poole 01-261 8494

MANCHESTER/GLASGOW
Owen Kelly
061-872 4211

BIRMINGHAM/BRISTOL
Basil McGowan
021-356 4838

MYRIAD APPOINTMENTS LIMITED
Computer Personnel Consultants

NEW INSTALLATION
ANALYST/ PROGRAMMER

W. LONDON £6000

Our client's first in-house machine is being installed this month, and its successor is on order for delivery next year. Use of computing facilities is already established by means of on-line links and batch processing at bureaux, and a number of areas have been identified for computerisation in the near future.

This is the scenario which will face the candidate who joins this expanding company, a part of the Gulf and Western organisation.

In such an active environment it is inevitable that heavy demands will be placed upon the person appointed. However, this means that that person's role will always provide plenty of interest and variety. In a small installation the end result of their efforts will always be visible, as each project is followed through from conception to completion.

If you can offer a sound background using either RPGII or COBOL in an IBM installation and feel that you are now ready to advance your career into a demanding and responsible role gaining analysis experience then the rewards are high. A good basic salary, flex time, LVs, free BUPA and four weeks' holiday await you.

Ref W1/1210

ANALYST/ PROGRAMMERS

BUCKS (20 miles from London) JUNIOR to £5500 SENIOR to £6250

We are seeking PROGRAMMERS and ANALYST/PROGRAMMERS keen to take responsibility for system development and implementation.

The Company offers:
★ Large IBM 370 installation
★ Gain IMS experience
★ Develop On-Line Real-Time Systems
★ Team Leading at the Senior Level
★ Analysis involvement at the Junior Level
★ 5 weeks' holiday
★ Rapid career progression

These vacancies are open to applicants with a minimum of 18 months' COBOL at the junior level, and 3 years' relevent D.P. experience at the senior level.

Ref. W2/1210

24-hour answering service

Please telephone for a confidential discussion or write to: 30 Fleet Street, London EC4Y 1AA 01-353 0981

Datasolve Datasolve

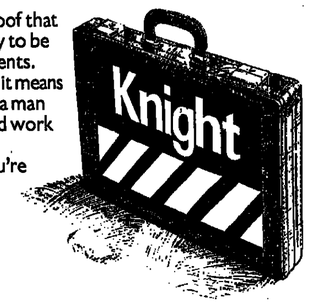
The Knight Contractors carry a big reputation.

When you're in contract work, the fact that you're with Knight says a lot for you.

To a potential employer it's proof that you're experienced, capable, ready to be trusted with the toughest assignments.

To the people you'll work with, it means respect—an indication that you're a man or woman they can get on with and work with as a true professional.

To yourself, it's a reminder you're good enough to work for the staff services arm of Britain's largest computer services organisation. And that, in every new contract you take on, they're right behind you.



These are some of our current requirements

Programmers/Anal

STOP PRESS LUXEMBOURG
3 years exp. of COBOL. Practical ICL 2980/70/60. Knowledge IBM COBOL, JCL, UTILITIES 2900. Training and/or given. French helpful.

Immediate/Forthcoming Assignments

IBM
COBOL+DOS—London
PL/1+OS—South coast.
SYS 3 RPG II—Hertfordshire
TASKMASTER SUPPORT—Middlesex
SYS 3 RPG II+CCP—Middlesex
ICL
2970/80 FORTRAN+ASSEMBLER—Germany
ICL COBOL+IBM—Luxembourg

MINI/MICROS
PDP RSTS BASIC Oxford
HEWLETT PACKA... COBOL—London
DATA GENERAL NOVA ASSEMBLER—Middlesex
PDP RSX II ASSEMBLER—Berkshire
PDP RSTS BASIC+—Buckinghamshire
FORTRAN—London
HONEYWELL
HONEYWELL 62/40 COBOL—Holland

URGENT
CDC ASSEMBLER—Holland
MAINFRAME/MINI FORTRAN—Holland
FORTRAN+REALTIME—Belgium
ASSEMBLER+CORAL 66—Belgium

Please contact Richard Kaluzynski or Suzy Gillam: 01-491 4706 or 01-439 3411.

Operators

European Languages a distinct advantage

IBM 370/168/158
OS VS1/2
ICL 2960, 70, 80
VME/K DME
ICL System 4/70/2 & 50
J & MULTI System
HONEYWELL 66/60
GCOS

IBM
IBM Data 100
IBM System 3 & 32
IBM 370/DOS VS (POWER GRASP & CICS)
JCL Writers OS & DOS
ICL
ICL 2903/4 Ops.

ICL 1900 GIII Ops. & Data Controllers
ICL 1900 GII & G11+Ops.
OTHERS
Burroughs, Small & Medium Systems
Honeywell Level 60
Terminal & Small Systems
Various Contracts.

URGENT

BELGIUM
ICL 2903, EXEC 1 Ops. French or German helpful

HOLLAND
IBM 370/DOS VS POWER Ops.
IBM System 3 Ops., many others
Dutch or German language ability a must

LUXEMBOURG
IBM 370 OS JCL Writers
French helpful

For further details or advice on these or other U.K. and European Contracts, call Sue Smyth, June Mogg or Jane Asbury on 01-491 4706 or 01-439 3411.

All vacancies are open to both male or female applicants.

Knight Computer Services Limited, 14 Old Park Lane, London W1Y 4NL. Staff Services Division of BOC Datasolve Group and a member of Computing Services Association.

01-491 4706

JBA

System 4 is not dead- it lives on as 2960 DME

Are you a SYSTEM 4 Operator, Programmer or Analyst?

Are you currently working at a SYSTEM 4 site?

Are you concerned about where you go from SYSTEM 4?

Do you think your SYSTEM 4 experience is getting out of date?

If the answer to any of these questions is YES – we want to hear from you.

Our client can offer you a smooth, gradual transition from System 4 to 2960 then, later perhaps, onto 2972. That's where they're going and they'd like you to move with them. Currently, the installation comprises a new 2960 and a System 4 which will be phased out to be replaced by a second 2960.

In the meantime, a significant amount of work on the 2960 is running under System 4/DME, which is proving to be a very reliable piece of software having given really high performance for over 4 months. This means our client can utilise your valuable System 4 experience to gradually move on to the delights of VME/B, databases and communications.

This planned expansion and the need to extend computer applications in new areas of the company's business means they are looking for OPERATORS, PROGRAMMERS and ANALYSTS.

The salaries offered are:

OPERATORS
with J experience (including shift allowance). £4.8k to £7.3k

SOFTWARE PROGRAMMERS
with J and/or VME/B experience. £5.5k to £8.4k

APPLICATION PROGRAMMERS
with COBOL and/or Usercode experience. £4.6k to £7.1k

SYSTEMS ANALYSTS
with commercial/financial application experience. £5.5k to £8.4k

Interested? Then contact Margaret Stevens.

JAMES BAKER ASSOCIATES
International Personnel Consultants
16 Maddox Street, London W1.
Tel: 01-491 4478.

"For crying out loud, can't anyone design a system properly?"

If you've ever felt that strongly about the systems you're obliged to work with, you could be the man or woman for us.

If you're sick of living with other people's sloppy software design, we can offer more than just an end to your frustration.

If you're convinced that with your guidance things could be done better, and you're itching for the opportunity to prove it, we'll give you that opportunity – and the challenge, responsibility, money and prospects that rightfully go with it.

Don't imagine that we're talking about a conventional programming or analysis job. No, we're talking about a software job that very few companies recognise the need for (which is why your job gives you so many headaches).

We're talking about software quality engineering.

It's an issue that we take very seriously indeed, for good reasons. Our business is to produce strategically important airborne radar systems that are built around real-time computers. So corrupt data or a faulty response can have drastic consequences.

That's why we need men or women to apply the strictest quality standards to our software and its generation. The standards and quality procedures are already set; your task would be to apply them rigorously. To identify problem areas. To put people right where they've gone wrong, as tactfully as possible. In short, to provide the promptings that individual consciences don't always provide.

An unusual job, certainly. An interesting and worthwhile job, definitely. And, in a new discipline in a growing department in a highly successful company, a job with a future.

To find out more, write to the man who knows all about it – Geoff Parry, our Software Quality Manager. Better still, phone him direct on 01-953 2030 ext. 3791. Alternatively, write to H. E. Batchelder, Marconi Avionics Limited, Elstree Way, Borehamwood, Herts. Quote ref. MA 78112.

MARCONI AVIONICS
A GEC-Marconi Electronics Company

Systems Development Manager
c. £6,000 + Bonus + Overtime

Analyst/Programmer
c. £4,500 + Bonus + Overtime

We are the precision rubber moulders manufacturing key products for the hydraulic, pneumatic and engineering industries.

Early in 1979 we shall upgrade our existing Honeywell hardware to a 320K 62/50 with 320MB of Disk and communications to support fully integrated on-line systems development for inventory control, production scheduling and sales order processing.

Applicants, male or female, for the two vacancies to join a small dynamic team must have a good background in production control and order processing systems with at least two years of design and analysis experience. For the senior post, which will have full responsibility for systems development, candidates must be able to demonstrate their successful management of projects.

A knowledge of Honeywell equipment, COBOL and on-line systems would be an additional advantage for either position.

Please write giving details of background, experience and current employment to: The Personnel Manager, Hall and Hall Limited, Oldfield Road, Hampton, Middlesex.

HALLITE

APL Consultants

One of the UK's principal independent computer services bureaux is seeking several additional staff to work in its APL team.

APL is a wholly integrated approach to interactive problem solving. It is firmly established and is now probably the fastest growing UK software market.

You will be trained to program in APL and will work on client projects and on product development. Career opportunities are excellent, as you would expect in a bureau of national and international stature, and promotion could be rapid. Salary will fully reflect your abilities and potential.

If you are highly numerate and have experience of computing, business analysis, operational research or appropriate related disciplines, please write or telephone the Position Number Supervisor quoting Position Number, Austin Knight Limited, London W1A 1DS (01-437 9261).

Applications are forwarded to the client concerned, therefore companies in which you are not interested should be listed in a covering letter to the Position Number Supervisor.

AK ADVERTISING

MYRIAD

PROGRAMMERS

Who else but Fiat could offer you such a rewarding challenge...

Fiat (UK) Ltd have established their development plan for the next 5 years in terms of their growth within the fiercely competitive motor trade. An integral component of this plan is the assumption that the company's effort in the market place will be backed by data processing systems which will respond to the needs of the company. The company has recently agreed the following development program together with a complete restructuring within the Management Services division. We have just commenced the development of completely new systems aligned to the four functional divisions of the company Sales and Marketing, Parts and Accessories, Finance, Service and Technical.

NETWORK AUDIO RESPONSE SYSTEM

MASTER SWITCHING SYSTEM

WARRANTY SYSTEM

The Warranty/Service and Technical Division is the newest development area and is required to handle claims in respect of manufacturing warranty and the Company's two year extended warranty scheme. The Warranty System will access parts, vehicles and dealer accounting information and then interfaces with the other major systems. Future developments in this area are the production of statistics in relation to component failures and dealer performance. The project group is currently being established and offers original and interesting systems work to keen programming and systems professionals.

CAR SALES SYSTEM

Mike Oakes is leading a team developing a new mini based on-line vehicle system. The system includes planning, ordering, transportation, allocation and reporting sub-systems. We need a SENIOR PROGRAMMER and PROGRAMMERS to complete the team and we are looking for sound experience in BASIC and/or COBOL. The project is under way, the machine has been installed and we have development work waiting to be programmed. We will provide the necessary training to enhance your skills to suit our environment and provide ample opportunity for you to develop to more senior positions. – The rest is up to you. From time to time limited maintenance of the existing system will be required but in this team – maintenance is shared by all

PARTS SYSTEM

Tony Hebbes, Area Systems Manager for the Parts Division of Fiat. His job is to co-ordinate the computer systems requirements of the Spare Parts Division and control the Project Teams developing these new systems. Parts sales have doubled in the last three years, also the addition of new models to the Fiat range has placed an ever increasing pressure on our centralised warehouse. So much so that work is currently in hand to double the capacity by the end of 1979. To cater for this expanded operation we are designing a completely new computer system. This will be on-line real-time utilising a dedicated mini. Urgent orders will be input direct from the Dealers' premises using a Voice Response System. The Entire warehousing system together with an Accounts System interface is required by the end of 1979.

FINANCIAL SYSTEM

James Green is leading a team developing Financial and Administrative systems. He is functionally responsible to the Financial Controller for the design and implementation of integrated accounting systems interfacing directly with other functional systems, the maintenance of existing systems and liaison with the various functional areas of the company. The team working in this area is currently involved in the following projects: Bought Ledger, Sales Ledger, Nominal Ledger and Financial Reporting, Management Reporting, and Dealer Financial Systems. Future projects will include on-line systems for financial management purposes: Annual Budgeting, Forecasting, and Cash flow analysis. He requires ambitious programmers, preferably with experience gained with accounting applications. Basic training in accounting methods will be provided.

c.£5,000 with 1 year+
c.£6,000 with 2 years+
c.£7,000 with 3 years+

Fiat have their Data Centre based at the Company's headquarters and Service Centre in Brentford. The Company offer an attractive salary package together with excellent conditions of employment. These include flexitime working, a 3% contributory pension scheme, subsidised canteen and an active sports and social club. Additional benefits include paid overtime and the opportunity to purchase a Fiat car at a greatly reduced price after six months service.

FIAT

MYRIAD APPOINTMENTS LIMITED
30 Fleet Street London EC4Y 1AA

ICL 2904 RPG2

7502s EDS 60s EXEC 2 £7000 DUNSTABLE

We are an international company providing car phone, pocket bleeper and medical deputising services throughout the UK and overseas.

We are looking for high calibre people to join our Group Computer Services team developing batch and on-line systems on our 2904.

Future projects will involve minis and micros at our branches and associated companies.

ANALYST/PROGRAMMERS

Applicants should have sound analysis experience together with detailed working knowledge of RPG2 or COBOL. On-line systems are written in Applications Manager in which training will be given. Salary c £7000.

PROGRAMMERS

With 18 months' RPG2 or Applications Manager. Salary c £5500.

Please phone or apply in writing to:
Tim Cullis
Group Systems & Programming Manager
Air Call Ltd., 105-111 High Street,
Houghton Regis, Dunstable, Beds.
Phone: 0582-64191

AIR CALL communications services

UNIVERSITY OF EXETER

APPLICATIONS PROGRAMMERS

Applications are invited for two posts of Application Programmer in the Computer Unit from suitably qualified graduates. The Applications Group provides a regular Program Advisory service, produces user documentation, gives courses in the use of computing facilities and undertakes large programming projects for user departments. The University's System 4/72 computer is part of the South West Universities Computer Network which consists of five inter-connected System 4s and an ICL 2980. A link is also available from the System 4s to the CDC 7600 at the University of London Computer Centre. The Computer Unit wishes to develop expertise in the areas of data-base management techniques and user services on a multi-machine configuration. Preference will be given to candidates who have experience in either of these areas. Candidates without experience may also apply, and in this case, training will be provided. Appointments will be made on one of the following grades depending on qualifications and experience (those scales are under review for a cost-of-living award)

Programming III (Training)
£3262 to £3718 per annum

Programmer II
£3384 to £5804 per annum

Letters of application, stating age, education, qualifications, experience and the names of 2 referees should be sent to Miss D Watson, Northcote House, The Queen's Drive, Exeter, by 30 October 1978. Please quote reference No 8644

D. P. M.
(Designate)

WEST SUFFOLK **to £8000 + Relocation**

Our Client is a Precision Engineering Company with an International reputation. The current staffing level is around 300 people with a turnover of £4½ million and increasing in a worldwide market.

They are currently using a Bureau for Commercial work and now wish to recruit a SYSTEMS ANALYST with a broad depth of experience in COMMERCIAL and MANUFACTURING Systems.

The task will be to formulate a long-term Data Processing plan for the entire Company. This will include integrating Accounting and Production Systems and the evaluation of the best means to achieve this, i.e. In-House Hardware or Bureau. The person recruited must be able to communicate effectively at all levels.

The CAREER PROSPECTS for this position are EXCELLENT!!

TELEPHONE: 01-839 6087
David Ward
(Evening or Weekend 0293-36880)

Barnard, Davies & Ward Ltd.
Computer Personnel Consultants
107 Jermyn Street, London SW1

BARNARD DAVIES & WARD LTD

PROGRAMMER— HOLLAND

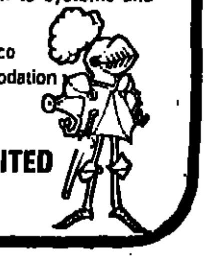
£9500/DFL 37,800 PLUS ALLOWANCES

Our client, an international manufacturing company, have as many as 70 companies in 30 countries throughout the world with a turnover in excess of £250m. Based in Amsterdam, their small friendly team seeks to recruit an IBM COBOL programmer with approx. 3 years' experience for their 370 125 installation. Working on a variety of applications, mainly on financial and stock control systems, on-line invoicing with some real-time, successful candidate will have opportunity to go on to systems and analysis. Co. offers first-class package including.

★ Tax allowances ★ 10% foreign service allowance
★ Settling in allowance ★ Assistance with accommodation

For further details please ring or write to:

KNIGHT PROGRAMMING SUPPORT LIMITED
27 NOEL STREET, LONDON, W.1
01-734-0152/3010, 24 hours



CONSULTANT
Nr. GATWICK **To £8,000**

A system software expert with a very good understanding of mini-computer operating systems and practical in-depth experience is required by this Software House

ANALYSTS
FELTHAM **To £7,000**

You will be required to give sales support and prepare detailed systems surveys for this large ICL installation. Good business systems experience and knowledge of VMEB or IDMS essential. Teleprocessing knowledge advantageous

PROGRAMMERS
CROYDON **To £6,500**

If you have mini-computer ASSEMBLER experience, this is your chance to take the first step in an interesting career within software. You will be involved in all aspects of software and data communications for an extensive network

ANALYST/PROGRAMMER
CITY **£6,000 + bens.**

3 years' programming background with a knowledge of COBOL and ASSEMBLER. Experience as an Analyst/Programmer essential and some knowledge of TP DOS or CICS with a financial background desirable

Many other vacancies exist in London, Middx, Surrey, Berks and Sussex. Please phone for details of jobs in your area, or alternatively for an Application Form

AMES PERSONNEL
Employment Agency Suite 14, Dryden Chambers, 119 Oxford Street, London W1R 1PA Tel: 01-434 1106

PL1

3 OR 6 MONTH CONTRACTS
£180-£260 per week

LONDON AREA

Convenient to public transport with ample car parking

- New Development work
- On-Line (CICS with interactive programming facilities)

Our clients, a major user of IBM 370, seek experienced PL1 programmers to supplement their existing project teams working in well appointed offices with a good staff restaurant.

If you are free now or in the next two to three months please ring us quoting ref. 915F for further details or send us your C.V.

EDP SYSTEMS 01-637 5796
52-53 Margaret St. London W1N 7FF

BOEING
need

Programmers
Analysts
Sales Staff
at Watford

Boeing Computer Centres, a subsidiary of the Boeing Company, is expanding its UK activities, which include batch, timesharing and mini computer bureaux. Because of our success we pay high salaries to good people.

All-purpose computer professionals are required with experience in programming or system analysis, or both. It would be an advantage to possess some knowledge or experience of accounting/financial packages. The positions offer involvement in a number of the following areas

● Systems Development/Programming ● Customer Liaison and Consultancy ● Pre-Post Sales Support ● Standard Packaging Implementation ● Large ICL Mainframe.
SALARY CIRCA £6,000

Experienced Sales Staff are also required to meet the expansion in our business. They should have knowledge of accounting systems and preferably interactive processing. The positions offer a high basic salary plus commission, with a company car, and good promotional prospects.

Phone: B. R. Lock or H. Shopper, Watford 38321

BCC Boeing Computer Centres Ltd.
St. Martins House, 31-35 Clarendon Road, Watford, Herts. WD1 1JA
BOEING need the best

Government Communications Headquarters, Cheltenham

Mathematicians/ Computer Scientists

The Government Communications Headquarters, which undertakes a wide variety of research and development across the field of communications offers mathematicians and computer scientists the opportunity to work in its Communications Analysis and Computer Divisions in the following areas:

* Systems programming on an IBM 370 configuration running under MVS;
* Mini-computer based real time systems;
* Computer networking;
* Applications programming in support of scientific work;
* Communications analysis using computers and mathematical techniques such as algebra, statistics, information theory, numerical methods and error correcting codes.

Candidates, normally aged under 30, should have a 1st/2nd class honours degree in mathematics/statistics/computer science or other relevant discipline. For Higher Scientific Officer posts a minimum of 2 years experience is required.

Appointment as Higher Scientific Officer (£4100–£5450) or Scientific Officer (£2840–£4410) according to age, qualifications and experience. Promotion prospects. Non-contributory pension scheme.

For further details and an application form (to be returned by 3 November 1978) write to Graduate Appointments Officer, GCHQ, Oakley, Priors Road, Cheltenham GL52 5AJ. *Please quote ref. SA/14/ED.*

Science Group
Civil Service

CRD

COMPUTER-AIDED HIGHWAY DESIGN

An engineer with experience in the development and application of computer-based techniques for highway design is required for our Engineering Group. A working knowledge of FORTRAN is essential.

Competitive salary in accordance with ability and experience.

Apply immediately to:

G G DOBSON
Executive Director
Computation Research and Development
12-18 Dartmouth Street
London SW1H 9BL
Tel: 01-930 0868

JBA

IBM BAL Programmers
London based **£6,500–£9,000**

Our client is a recently established software house, which already has a number of major contracts with extremely prestigious organisations. The long term aim is to move into software development, for which their plans include the installation of a PDP11 minicomputer.

They have an immediate requirement for experienced BAL programmers and are offering extremely generous salary packages. Basic salaries range from £6,000 to £8,000 pa according to experience, plus profit share and bonuses to £1,500 pa. Relocation assistance will also be available where necessary.

A phenomenal chance to be in at the start of what promises to be an extremely successful venture.

Contact: Andy Wright

Analyst Programmer
London **c.£8,000**

A large international commodity trading organisation with interests in banking and shipping has an opportunity for an experience d.p. specialist to set up and run a new installation in London.

The company is looking for a person with all-round ability to develop and operate commercial systems on a HP3000. Candidates must have several years experience in a systems and programming environment and be self-motivated to cover all aspects of work in the London Data Centre. This appointment has the potential to offer the senior position as the installation expands together with some European travel.

Salary is not negotiable but will not be a limiting factor for the right person.

Contact: Jim Baker

Analyst Programmer
St. Ives, Cambs. **£5,000 to start**

This small Computer Services organisation is currently developing new on-line commercial systems, on their ICL 2903, with a view to moving away from working purely for their parent company, by providing d.p. services to commercial firms in their area.

An analyst programmer is required to take on a major role in the Systems and Programming department, with part responsibility for its smooth running.

A good COBOL background is essential, together with knowledge of TPS or a similar system.

A superb opportunity to take on a good measure of responsibility immediately, with prospects of involvement in the sale and marketing side - a car will be provided at that stage.

Contact: Andy Wright

Training Officer
Middlesex **Salary negotiable**

Ideal opportunity for someone who enjoys training to enter a large, well-known company with many diverse interests. Duties will include recruiting and training computer programmers from scratch, arranging and visiting local schools to give advice on training matters.

Applicants must be sound COBOL programmers thoroughly self-motivated and able to communicate at all levels. Some previous teaching or administrative experience is a definite bonus.

Excellent employment conditions and benefits. Please call us, we'd like to tell you about this very interesting vacancy.

Contact: Mike Creamer

Senior COM Software Specialist
Middlesex **£6,000 + Car**

Our client, a company engaged in the production and marketing of sophisticated electronic and business equipment, wish to appoint a Software Specialist in their European Support Group to be responsible for the design and development of COM software.

Applicants must have experience of Macro Assembler & COBOL on PDP11's and a mainframe together with a sound background of operating systems including RT11

Exceptional opportunity to be involved in a professional and demanding environment including occasional European travel

Contact: Margaret Stevens

AUSTRALIA

Computer professionals with more than 3 years experience who are determined to emigrate to Australia, will benefit from our consultancy service. Initially, we advise and provide an assessment of your career prospects in Australia and, later, when your arrival there is imminent, you receive the concentrated services of our Associate company in setting up introductions to suitable vacancy positions in Australia.

Since JBA commenced this service we have been extremely successful in arranging a selection of possibilities for people arriving there (mainly in Sydney and Melbourne) and the people concerned thereby found ideal employment very quickly.

Contact: Mike Creamer

For further information on any of the above vacancies please contact the appropriate consultant.
If your qualifications do not match the above positions but you are seeking other opportunities please contact us anyway.

JAMES BAKER ASSOCIATES, International Personnel Consultants
16 Maddox Street, London W.1. Tel: 01-491 4478

Analyst Programmer

Up to £5,400 plus paid overtime

Move into On-Line Database Systems

Here is a remarkable opportunity to expand your skills and experience in the continuing design and development of our on-line database system, using IMS software.

We are an expanding Company producing diesel engines in the 900-1600 horsepower range for home and export markets. The majority of existing systems, which include Financial, Requirements Planning and Production Control application, use IMS database. Several of these have on-line facilities and program development is also mainly on-line.

You should have:

* A minimum of two years' COBOL experience or PL/1 programming experience preferably on IBM equipment.
* The ability to communicate orally and in writing with line Managers and their staff.
* The potential to handle an assignment from initial investigation to implementation.

We can offer excellent working conditions with fringe benefits appropriate to a major company. Generous relocation assistance is available where appropriate.

For further details or an application form contact the Systems Manager, Roger Davies, on Daventry 4400 extension 212 or write to him at Cummins Daventry, Royal Oak Way South, Daventry, Northants. NN11 5NU.

Cummins

Project Leader

APV Group Research and Development Department

APV is a major international process engineering group serving the dairy, brewery, chemical and petrochemical industries. We currently have a vacancy in the APV group research and development department which provides a technical in house consultancy for the whole APV group. The department makes extensive use of the group's prime 400 and 500 computers and graphics equipment, including Tektronix 4014 Screen and 4662 Plotter.

A dynamic and enthusiastic engineer with computer experience is required to develop and lead the activities of a small team propagating the use of computer aids and techniques for design and manufacture.

The successful applicant will hold a mechanical or chemical engineering degree, and have several years' experience with the use of computers. Supervisory experience, FORTRAN programming and use of graphics will be preferred.

A salary of around £6500 and relocation package if necessary is offered.

Please apply for further details and an application form to:

DAVID GOLTON
Senior Personnel Officer
The APV Co. Ltd.
P.O. Box 4
Manor Royal
Crawley
Sussex
Telephone Crawley 27777

APV

SURREY — SUSSEX

[illegible]

---

16 Bedford Row
London WC1R 4EB
01-242 9356
Telex 21120

OCC

Specialists since 1971 in UK and international computer appointments

occ computer personnel limited

FINANCIAL SYSTEMS
CITY OF LONDON

Consultants	to £9,300
Project Managers	to £8,500
Senior Analyst/Programmers	to £7,000
Assembler Programmers	to £5,700

A major UK Software House are expanding their financial systems division in the City of London. The growth area is On-line Insurance, Reinsurance and General Financial Systems on small business machines.

Project Managers and Technical staff should have extensive experience of mini-computer application in a commercial environment.

Programmers and Analyst/Programmers will be expected to move rapidly into a position of responsibility for design and implementation.

Consultants should have a first-class understanding of at least one business area and be able to deal with the highest levels of customer management.

In addition to the salary quoted above, the remuneration package includes good travelling expenses and the possibility of a productivity related bonus. ***Ref. 837/CW/RN.***

Informal Interviews: Our clients will be at our premises on Monday, 16th and Wednesday, 18th October, 5.30 to 7.30.

To apply for any of the above positions, contact Renée Nute or Fran Setter on 01-242 9356 (day); (evenings/weekends 01-874 5372.

Computing Services Association

MYRIAD APPOINTMENTS LIMITED

Computer Personnel Consultants

POTENTIAL ANALYSTS

Near CROYDON **To £6000**

This is an excellent opportunity for experienced COBOL programmers to progress to Analysis and play an active part in the development of a variety of systems from feasibility to implementation.

The successful candidates will have the opportunity of gaining client liaison experience and the range of activities will extend to both pre- and post-sales situations. The more senior positions will give opportunities for project leadership.

The Company operate a large D.P. Centre and have a full development programme which will afford experience in three Database systems. Excellent commencing salaries will be offered and are enhanced by first-class conditions of employment including 4 weeks' holiday, restaurant and social club.

Ref. N1/1210

24-hr. answering service
Please telephone for a confidential discussion or write to:
30 Fleet Street London EC4Y 1AA
01-353 0981

TEAM LEADER

W LONDON/BERKS **to £8,500**

International group of companies with outstanding reputation for efficiency, growth and investment seeks a Team Leader to work in development areas. Ideal applicant will have good technical background in IBM environment. This is a senior position involving project management and quality control of development phases and to assist with the design and specification of the system

* Good company, benefits which include non contributory pension, life assurance and sickness scheme
* RELOCATION ASSISTANCE IF REQUIRED

For further details ring or write to

KNIGHT PROGRAMMING LIMITED
27 NOEL STREET, LONDON W.1
01-734-0152/3010, 24 hours

There's More To Life Than Meets The Eye!

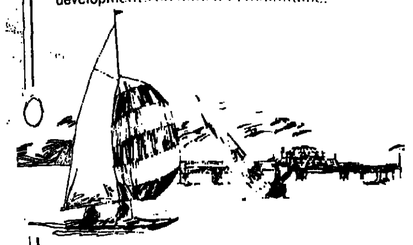
Our client is the Schroder Life Group, a wholly owned subsidiary of one of the country's leading merchant banking organisations. The Group, which markets a wide range of unit linked and conventional life assurance and pensions products, is expanding and offers excellent career opportunities.

Currently a bureau 370/148 is utilised on a remote batch basis. A DEC PDP 11 is shortly to be installed and this will form an integral part of further developments. The future is exciting and the new recruits will have the opportunity to influence it.

The company is located in Portsmouth close to the shopping centre, beach and recreational facilities, access roads, and the main railway station. Portsmouth offers all the facilities of a growing commercial centre — residential, educational, and social. Its environs provide some of the most pleasant country and coastline in the South.

*MORTGAGE SUBSIDY *RELOCATION PACKAGE *21 DAYS HOLIDAY *NON-CONTRIBUTORY PENSION *FREE LIFE ASSURANCE *L.V.'s *SEASON TICKET LOAN

Project Leader
Salary V. Negot.C. £7,000
The successful applicant will have full responsibility for the main Unit Linked Assurance System. It will be necessary to liaise with senior user management and staff and control internal and external technical personnel. Relevant applications experience would be very valuable as would an IBM ASSEMBLER background but the essential is the ability to control a project from inception to implementation. The future is interesting with developments on mini and mainframe.



Senior Programmer — ASSEMBLER
C. £6,000
The successful applicant will have a strong IBM ASSEMBLER background and either a knowledge of, or a willingness to learn, COBOL. Initially all work will be in ASSEMBLER but the Senior Programmer will control the introduction of COBOL. Candidates should have the ability to lead a small team of Programmers.

Senior Programmer — Mini
C. £6,000
Applicants should have a good knowledge of the DEC PDP 11 operating under RSTS/E. A knowledge of BASIC PLUS would be a distinct advantage. The successful candidate will work on new systems and lead the programming effort on the PDP 11. These systems might be developed in BASIC PLUS or COBOL. The position would suit an experienced "mini" Programmer who is seeking more responsibility.

Please telephone or write to CROYDON office Ref: CW40-8H

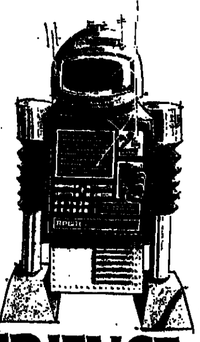
COMPUTER AND PROFESSIONAL PERSONNEL CONSULTANTS

CAPP ASSOCIATES
LONDON AND MANCHESTER

Computing Services Association

19, PARK STREET, CROYDON, CR9 1TN
01-686 9693 (24 HOUR ANSAPHONE)

More careers advice from ARPEEGEETOO



the world's leading expert on ANALYSTS AND PROGRAMMERS WITH RPG II EXPERIENCE

'When the problem's solved and the system's set up and running, wouldn't you like to be moving on?'

Not much chance of that in most user-companies though, is there? You just have to sit there playing nursemaid and wondering what on earth you're going to do for excitement next.

But think what it would be like with a really successful, professional software company.

Altergo Business Systems spring immediately to mind. They have hundreds of clients in different industries needing a wide variety of applications — always new problems and new surroundings.

Quite apart from the constantly renewed challenge they pay very well too. Just show them you are capable, ambitious and experienced on IBM systems such as System 32/34 or System 3.

What can you lose by talking to Altergo? You'll certainly find they can build your career around your circumstances. If you want to travel, fair enough. If not, don't worry.

Contact Brian Walker or Barry Whitesman quoting BS-16, on 01-734 9681 or after 8.00 p.m. on 049-481 2713.

Altergo Business Systems Limited, Warwick House, 38 Soho Square, London W1V 5DP.

Computing Services Association

altergo

North West To £7000

Our client, an important scientific Institution, is seeking a systems programmer to assist in the provision of new systems facilities. To become familiar with GCOS operating system, to make the enhancements and adaptations needed to meet the Organisation's requirements and to provide systems advice to the operations staff as required. Ref. 194.

West Midlands To £5000

Our client, an internationally known automotive products manufacturer, is looking to appoint up to three Assembler and/or PL/1 programmers and a systems generation programmer. The compensation package will be similar to those normally associated with organisations of this stature. Ref. 191.

Sussex To £6500

A major manufacturing Company wishes to appoint a chief programmer with Cobol and Fortran experience. The successful applicant will possess a management background and six to ten years in D.P. Ref. 193.

Plus, many more positions too numerous to mention here. Salaries from £4000 to £8000 for programmers and analysts throughout the U.K.

Give us a call we'll give you a career.

Write or telephone 0565 4925 today.

pas

30 Baker Street
London W1M 2DS

9-11 Tatton Street
Knutsford
Cheshire WA16 6AB

STAFF MANAGER TELEGRAPH COMPUTER OPERATIONS

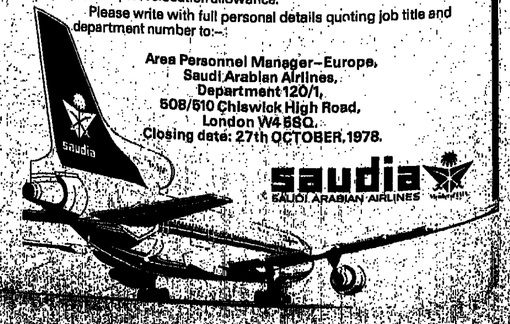
Starting salary £11,200 p.a. Tax Free

Saudia, flag carrier of the Kingdom of Saudi Arabia, has an immediate Management vacancy for an able and experienced computer specialist in its expanding Communications Operations Department. Applicants for this post should have the H.N.C. or equivalent with at least ten years telecommunications experience. The successful candidate must have a thorough knowledge of computerized message switching systems software programming, to be able to determine the hardware/software terms and responsibilities, knowhow of computer input/output devices, systems development and project management, implementation of long term planning and development of the Airline's telegraphic system.

The post, which is based in Jeddah and open to men aged between 26-50 is offered on a two year renewable contract together with free accommodation, free and reduced rate air tickets for you and your family, 40 calendar days vacation per annum plus relocation allowance.

Please write with full personal details quoting job title and department number to:—

Area Personnel Manager—Europe,
Saudi Arabian Airlines,
Department 120/1,
508/510 Chiswick High Road,
London W4 5RG.
Closing date: 27th OCTOBER, 1978.



saudia
SAUDI ARABIAN AIRLINES

Technical Support Staff

Rural Staffordshire — Salaries up to £6,000

Our Operations Planning and Software sections are looking for additional technical staff to complete their teams based at Burton-on-Trent.

Installation

Our current equipment is based around twin IBM 370/155's (under MVT/HASP/TSO) and a 370/148 with a nationwide TP network of 3270's under CICS. A 3032 is due in 1979 together with a mass storage system and will be run under MVS, with VSPC. Amongst other developments are the introduction of Distributed Processing using Series 1 minis, Database Systems, TSO and Personal Computing, and both Hardware and Software monitors for Performance Evaluation.

Operations Planning

The function provides general technical support and ensures the efficient use of operations resources covering hardware and procedural evaluation and implementation.
We are looking for people with an in-depth knowledge of IBM 370 operating systems, preferably with a systems programming background who have a practical knowledge of job control language and emulate operational practices.

Operations Software

This section provides a service to ensure the successful performance and availability of software and will involve the design, testing and implementation of in-house operating software. Here we need systems programmers with IBM Software experience in one or more of the above computing techniques. Above all applicants must be problem solvers with the enthusiasm to develop their skills.

Salary Package

We are offering initial salary packages of up to £6,000 dependent upon experience with opportunities for further salary progression and career development within a professional environment. Additionally, there are excellent fringe benefits, and assistance with relocation expenses will be given where necessary.

Location

Our Computer Centre is situated at Burton-on-Trent within easy reach of major Midland conurbations. Moderately priced housing is available in attractive local villages.

Please write or telephone for an application form to:
Chris Scott, Personnel Officer,
Group Management Services,
Allied Breweries Limited, 128 Station Street,
Burton-on-Trent, Staffordshire DE14 1BZ.
Telephone (0283) 46320, Extension 2906 or 2908.

ALLIED BREWERIES LIMITED

SENIOR SYSTEMS ANALYST

LONDON c £9,500
+ Mortgage
+ Other exceptional benefits

Career Opportunity in Leading Financial Institution

This person will be involved in all activities including project leadership, analysis, design and writing program specifications. This individual will be given the necessary authority to be accountable for successful implementation on time and within budget.

Candidates should be user oriented and open minded enough to derive the optimum solution to the users' problems, whether this involves a mini, mainframe or other solution. This high-calibre department can offer an excellent career to a flexible all-round professional.

A FULL JOB SPECIFICATION IS AVAILABLE AT INTERVIEW
Call GEOFF MARSH on 01-499 4501

Ref: RW 41/1

REAL-TIME MINIS

Based in rural Berkshire, opportunities to enlarge your experience in state-of-the-art applications of minis

★ £ NEG'L ★
(plus Relocation)

My client is a small systems house which specialises in the development of total systems based on **PDP/11** hardware under **RSX-11M.** Systems are developed in **RTL/2, Coral** and **Macro,** and increasing use is being made of **Intel 8085** microprocessors.

The company is young and small, so the working environment is congenial and stimulating. Your security is the financial backing and commitment of a major industrial concern. Your key to success will be your own talent and hard work.

There are openings at all skill-levels, and to reflect this, salaries up to and including **£7,000** will be paid in appropriate circumstances.

Please contact me, TONY BAKER, on 01-499 4501 (24-hour answering service) for an initial discussion.

Ref. RW 41/2

CONTRACTORS

When we have given you the money - we will help you spend it

Hutchinson Scoggins Contracts Limited retains a Chartered Accountant to advise our contractors and assist in company formation, tax problems and mortgage hunting.

Looking for a mortgage? House? Answers to tax riddles?

Ring Brian Dawson on 01-499 4501 for more details of what Hutchinson Scoggins Contracts Limited has to offer.

If it's simply a contract you are seeking, consider the following:

EUROPE	**Holland**	System 10, 1 year
	Germany	Univac 1180/Airline Systems, 6 months
	Holland	Fortran & Maths. degree & PDPII 1 year
UK	**Basingstoke**	DOS/TASK/FILETAB
	London	IBM Assembler
	N. Kent	PL/1
	London	2960/70 VME K

Please call BRIAN DAWSON on 01-499 4501 for further information

RM 41/3

ANALYST/PROGRAMMER

(Team Leader Designate)

c £7,500
+ Mortgage
+ Bank Benefits

LONDON – MAJOR INTERNATIONAL BANK

This post offers
★ Entry into banking systems
★ Planned promotion to a supervisory position
★ Varied-interest workload
★ Plenty of user contact
★ Opportunity to enhance your abilities
★ Excellent future within one of the world's leading banks

The skills and qualities required are
★ IBM OS COBOL
★ The ability to supervise a team of Programmers
★ Analytical ability

Call GEOFF MARSH on 01-499 4501

Ref. RW 41/4

hutchinson-scoggins recruitment
47/48 New Bond Street (entrance in Maddox Street) London W1Y 0HE. Telephone 01-499 4501

MANAGEMENT & EXECUTIVE SELECTION

SALES

for immediate interview contact Faye Ogilvie
01-637 9611

Basic to £7K+Commission+Executive Car

European Sales Executive — **Based West of London**

Our client is a leading supplier of memory products and from their European H.Q. in the West of London serve the major countries of Europe.

If you have been looking for an opportunity to develop your career with a company that is one step ahead of its competitors this vacancy will interest you.

The Job — *Reporting to the European OEM Sales Manager and working with their European commercial and military customers you will be responsible for obtaining new business and maintaining existing accounts.*

The Requirements — *OEM sales experience is essential, and preferably gained in the European market. An added advantage would be a knowledge of German or French. First-class support from this professional organisation means that extensive technical expertise is not necessarily required.*

Quota Earnings START at £11k + Car

North, Midlands, London, Home Counties, W. Country

Our client is looking for the best sales people in the industry. For the best they offer:

★ High basic salary.
★ Exceptionally high guarantees, for a period of 18 months, based on recent earnings and totally non-recoverable.
★ **Commission earnt therefore will be additional to the guarantee!**

Match this with an extensive development programme, a wide range of products, excellent technical support, and an aggressive sales and marketing policy, and you will understand why they are the fastest growing mini computer company.

As a result of this rapid growth, opportunities for career progression are unrivalled in the computer industry.

Suite 201/6 Albany House 324 Regent Street London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION

LONDON ELECTRICITY

London Electricity run a dual IBM [illegible] installation supporting a large teleprocessing network of [illegible] terminals utilising OS/VS1 and CICS. A major expansion of the operating team is being undertaken and we are now seeking to recruit staff at the following levels.

ASSISTANT SHIFT LEADER/T.P. NETWORK CO-ORDINATOR

(£6,288 to £6,778 inclusive)

Applicants should have 3 years' experience in an IBM 370 environment, supporting both batch and on-line systems under OS/VS1. Experience of supervision of staff is also required, plus the ability to liaise with users.

SENIOR OPERATOR

(£5,138 to £6,182 inclusive)

Applicants should have 2 years' experience in an IBM 370 environment using OS/VS1, and experience of a multi-c.p.u. installation would be an advantage, although not essential.

The above vacancies have been created by internal promotions, and all applicants should be capable of similar progression.

The installation is situated in S.E.1, close to underground and bus services, and is convenient for British Rail Southern Region main line stations.

A 2 shift system covering Monday to Friday is in operation.

Applications giving details of age, qualifications and experience should be sent to
Computer and Management Services Controller
LONDON ELECTRICITY BOARD
P.O. Box 74, London, SE1 6NL,
quoting reference CW/2994/6/1078
(The above posts are open to male and female applicants)

The power behind London LEB

SENIOR PROGRAMMER

BUSHEY, HERTS.

Godfrey Davis (Car Hire) Ltd., market leaders in the UK vehicle rental industry, wishes to recruit a Senior Programmer experienced in COBOL and in programming financial applications, and with a working knowledge of NEAT/3.

The successful applicant will be in reasonable commuting distance of our brand new Head Office in Bushey, Herts. (Though he or she will be required to work in our Head Office at Crown House until the move — approximately December.)

Along with a good salary, there are attractive company benefits, including non-contributory pension scheme and free life assurance.

To apply please contact Mr P. Ward, Crown House, North Circular Road, London NW10 7UD. Tel 01-965 9857.

DP Consultant

SOUTH AFRICA

Peat, Marwick, Mitchell & Co., require the services of a data processing specialist with extensive commercial computer experience.

Candidates will preferably have detailed knowledge and practical experience of:
- data communications
- data base packages
- distributed data bases

Experience with more than one manufacturers equipment would be an advantage.

An attractive remuneration package is offered for a two year tour of duty with our South African office.

Initial interviews will be conducted in London on 30th and 31st October by a member of the South African management consulting staff.

Apply in writing giving detailed curriculum vitae and telephone number where you can be contacted to: [illegible]

Programmer/Analyst on-line RPGII Systems

c.£5,500

Our clients — SABRE (Sportswear), leading designers of quality menswear for both the UK and export markets — are soon to install an IBM System 34; they are now looking for a technically competent, and practical man or woman to ensure the successful upgrade of all their existing systems to an on-line environment.

Future tasks will include the design and implementation of new on-line programs for their UK Production Line and Accounting systems. This is very much a growth situation, and future developments will depend a great deal on your own initiative and professional skills. The opportunities for progression are obviously considerable.

Ideally you will have had experience of programming in an IBM S3, 32 or 34 or minicomputer environment. Knowledge of RPG II would be an advantage but is not essential as all the necessary retraining will be provided.

You will be based at Sunbury-on-Thames in Middlesex, but your systems investigation activities will necessitate some travel within the UK. The salary is negotiable and will be supplemented by free lunches and a generous staff discount on all the company's products.

For an early interview ring Elizabeth Skerrett-Smith now on 01-734 9681 quoting CR 21 or if you prefer write to her with full career details to:- Altergo Personnel Limited, 38 Soho Square, London W1V 5DF

Licensed as an Employment Agency — Computing Services Association

altergo CLIENT RECRUITMENT CONSULTANCY SERVICE For UK and Overseas

COMPUTER STAFF AGENCY PARTNER

A remarkable opportunity for an experienced agency person to run own business with limited capital (loan repayable out of profits) and to earn what she/he is really worth!

If you are placing 1 or 1½ persons a week you will earn as a partner £20,000 to £30,000 per annum!

Berkeley Street Employment Agencies Group
16 Berkeley Street, Mayfair, W1
Ring Colin Gray 01-499 8204
for fullest details

CLASSIFIED COPY

All classified copy should reach our offices no later than 5.30 p.m. on the Monday preceding Thursday's publication. If complete artwork is supplied 12 noon on a Tuesday. Ring Ian Carter for further details on 01-261 8016.

ANALYSTS PROGRAMMERS

MINI CONSULTANT Surrey to £8000
In-depth experience of Mini Operating Systems (David)

PL/1 PROGRAMMERS City £6500
Any applications for User. (Bill).

SOFTWARE Europe £10000-£15000
Operating Systems, Compilers, Communications, Message Switching — Mainframe or Mini. (peter).

SALES PEOPLE London & S.E. c. £16000 + Car
Hardware or Package Sales. (Bill).

TRAINING OFFICER W. Middlesex to £6000
Cobol Programmer to become involved in Recruitment/Training for major Company (Peter)

TRAINEE SYSTEMS ANALYSTS N. London to £6000
Snr. Programmers to train in Analysis (David).

SOFTWARE & HARDWARE ENGINEERS W. of London to £7000 + Mortgage
Work on Real-Time Telecomms. systems (Peter).

SYSTEMS ANALYSTS London to £7000 + Mortgage
Min 18 months' Systems. Additional benefits given. (Bill)

TRAINEE SOFTWARE PROGRAMMERS N. London c. £5500
ICL PLAN experience, some Cobol. (David).

PROGRAMMERS West End c. £6500
Exp of Cobol, Re-train to IBM if nec (Bill).

SOFTWARE TRAINEES N. Surrey to £6500
Knowledge of Burroughs/Univac Mainframes or Minis. (Peter).

TECHNICAL PROGRAMMERS Surrey & S. Coast to £6000
Industrial applications, Process Control, Telemetry, Communications or Data Logging. (David).

TELEPHONE: 01-839 6087
Bill Taylor, Peter Barson
David Ward

Barnard, Davies & Ward Ltd.
Computer Personnel Consultants
107 Jermyn Street, London SW1Y 6EE

BARNARD DAVIES & WARD LTD

English China Clays group

COMPUTER PROGRAMMER

ENGLISH CLAYS LOVERING POCHIN & CO. LTD., the major operating Company of the English China Clays Group, has a vacancy for a Computer Programmer.

The successful applicant will work in a project team environment and some opportunities to progress to writing programme specifications and some systems design under the guidance of the Project Team Leader will be afforded.

Applications are invited from programmers with at least 1 year's programming experience in COBOL. Experience of ICL George 3 would be an advantage.

The Company's computer is an ICL 1904A running batch and on-line applications.

The job is based at the Group's Head Office at St. Austell, Cornwall, and conditions of employment include 4 weeks' annual holiday and Pension, Life Assurance and Profit Participation Schemes. assistance will be given with relocation expenses.

Applications in writing quoting reference 266 to

The Company Secretary
John Keay House
St Austell
Cornwall

COMPUTER PERSONNEL APPOINTMENTS LTD.
Career Specialists and Consultants for
D.P. MANAGERS, SYSTEMS ANALYSTS, PROGRAMMERS AND OPERATORS
Midlands, Northern Counties and Scotland
For application forms apply to:-
65 New Street, Birmingham B2 4DU. 021-643 0951
or Tel 01: 723 5334

EUROPEAN HARDWARE SUPPORT

An IBM PCM Company is looking for a suitably qualified PCM Engineer to support their European Agents.

The successful candidate will be based in either London or Dublin and will receive European type salaries and benefits.

A vacancy also exists for a Service Engineer for the Midlands. Salary £7,000 + luxury car.

KEY COMPUTER PERSONNEL
01-949 5851

FORTRAN

FOR THE BEST JOBS IN THE SCIENTIFIC AND TECHNICAL COMPUTING FIELD — CONTACT US NOW

As specialist agents in the Engineering, Scientific and Technical industry we now deal with over 4,000 companies throughout the U.K. There is an urgent demand from these companies for experienced and Graduate programmers with FORTRAN experience. Jobs from £3,500 to £8,000 all areas. Phone us now for a free list of vacancies

Capital Appointments, 28 Windmill Street, London, W1
Telephone: 01-637 5551 (day) — 01-636 9659 (eves.)

CONTRACT DIVISION

U.K.

ANALYST IDMS EXP.	C. LONDON	£200 p.w.	IBM SYST 3 RPGII JNR LEVEL	BERKS	£170 p.w.
ANALYST FORTRAN	C. LONDON	£200 p.w.	IBM OS TSO COBOL AN/PROG	HERTS	£200 p.w.
IBM COBOL TSO VSAM DOS VS	C. LONDON	£200 p.w.	IMS COBOL	HERTS	£220 p.w.
IBM COBOL/ASSEMBLER DOS	HERTS.	£200 p.w.	DOS TO OS CONVERSION COBOL	BUCKS	£200 p.w.
IBM ANALYST SALES ADMIN.	E. LONDON	£220 p.w.	PDP FORTRAN	BERKS	£230 p.w.
ANALYST PROG ASSEMBLER + PL/1	E. LONDON	£200 p.w.	HONEYWELL 6000 GCOS COBOL	MIDDX	£220 p.w.
IBM SYST 3 RPG-II	MIDDX.	£200 p.w.	SEN PROG IBM OS COBOL	SURREY	£220 p.w.
			PROGRAMMER IBM OS COBOL	SURREY	£200 p.w.

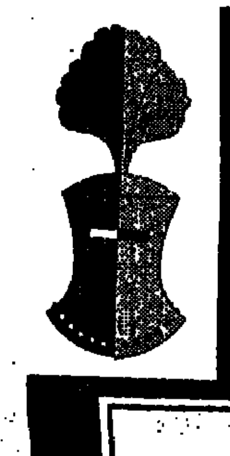
OVERSEAS

PDP FORTRAN KN OF FRENCH	BRUSSELS	£375 p.w.	IBM SERIES 1 ASSEMBLER	HOLLAND	£350+p.w.
PDP MACRO II KN OF FRENCH	BRUSSELS	£375 p.w.	DOS CICS COBOL	HOLLAND	£375 p.w.
FERRANTI 500 CORAL KN OF FRENCH	BRUSSELS	£375 p.w.	SYST 10 SINGER ASSEMBLER	HOLLAND	£350 p.w.
HONEYWELL 64 GCOS COBOL	HOLLAND	£340 p.w.	PDP MACRO II	HOLLAND	£340 p.w.
HONEYWELL LEVEL 66 GCOS COBOL	HOLLAND	£350 p.w.	SYSTEMS PROGRAMMERS DOS & OR OS VSI KN OF GERMAN	MUNICH	£340 p.w.
UNIVAC 1100 DMS	HOLLAND	£375 p.w.			

For details of the above, and further contracts, ring Christine Kay/Dave Hayton Tel. No. 01-734 0152 (24 hours)

KNIGHT PROGRAMMING SUPPORT LIMITED

27 NOEL STREET, LONDON W1. TELEPHONE 01-734 0152/6 (24 HOURS)
OFFICES AMSTERDAM, PARIS, MANCHESTER, BIRMINGHAM



KNIGHT PROGRAMMING SUPPORT LIMITED

Computing Services Association

CONTRACT MIDLANDS & N. ENGLAND

UNIVAC 1108 ASSEMBLER	c. £225	NORTH WEST	PDP11 RSX11 PROGRAMMERS	c. £230	MIDLANDS
PDP11/RSX11 PROGRAMMERS	c. £230	NORTH	DATABASE DESIGNERS	c. £245	NORTH WEST
IBM CICS COBOL	c. £240	NORTH	FINANCIAL SYSTEMS ANALYST	c. £250	NORTH WEST
IBM CICS ASSEMBLER	c. £245	MIDLANDS	ICL 2900 VMEB/VMEK	c. £230	MIDLANDS
IMS SYSTEMS ANALYST	c. £250	NORTH WEST	IBM CICS PL/1	c. £240	NORTH
IBM CICS ASSEMBLER	c. £245	NORTH	DEC 10 SCIENTIFIC APPLICATION	c. £240	NORTH
REALTIME PROGRAMMERS	c. £220	NORTH WEST	HW L66 GCOS COBOL	c. £225	NORTH WEST
IBM COBOL OS PROGRAMMERS	c. £220	NORTH WEST	HW L66 GCOS COBOL	c. £225	MIDLANDS
HONEYWELL L66 IDS/TDS	c. £250	NORTH WEST			
IBM CICS COBOL	c. £240	MIDLANDS			

FOR DETAILS OF THESE AND OTHER CONTRACTS, PLEASE CONTACT PERRY BUTLER
143/144 ROYAL EXCHANGE, MANCHESTER. TELEPHONE NO. 061-833 9341/5 MIDLANDS 021-236 1794 Extension 223

Operations Background? Software Generation Co-ordinator

Slough **6½-7K**

A very new and exciting appointment is currently being created for someone with the necessary skills and ability to take responsibility for the day-to-day running and maintaining of a software distribution library.

This position will involve the successful candidate in the administration of this complete function creating operating systems software for a range of high powered minis.

Candidates must have a strong background in operations on IBM 360/370 machines. In addition they must have an in depth knowledge of using and working with ICL. This appointment calls for someone with initiative and drive to work on their own without needing day-to-day supervision. Experience of administration and scheduling work flow is essential to the success of the applicant.

A highly competitive salary is offered expressing the importance of this post, plus many other benefits.

CW 41/1

Programmers and Analyst/Programmers

Central London **£4000-£7000**

An international Computer Services company require more people as a consequence of continued growth and success.

They are looking for programmers with experience of RPG11. Experience of System/3, 32, 34 and/or financial applications would be an added advantage.

You will be offered the opportunity to work on a wide variety of interesting projects plus the possibility of overseas assignments if desired.

It is expected that applicants will have ambitions to move into analysis, consultancy or develop their expertise into other programming languages and machines.

These are excellent opportunities, in an outward looking concern, where you are encouraged to develop your career and participate in the company's future.

CW 41/2

New 370/138 Installation First Systems Programmer

London **£8000 p.a.**

An experienced System Programmer is sought to join new systems and programming team currently being set up in preparation for the delivery of a new 370/138 next month.

The initial task will be setting up the systems programming function. Development plans include interfacing with the companies' existing sophisticated mini based communications network, producing additional services for their current customer base.

Candidates will have a background in systems programming using DOS/VS. In addition to ability and drive to take up this role, this job will involve playing an active part in the planned growth and expansion of the companies' systems in the years to come.

CW 41/3

Career Development in Berkshire

Berkshire **£6000 +**

Programmers to Move into Analysis

A multi million pound group with controlling interests in a wide range of engineering, production and service functions, is upgrading their ICL machine next year.

To strengthen the project teams responsible for design and implementation of systems for the various users within this diversified group, we need experienced programmers with exposure to analysis or analyst/programmers who are ready and willing to move into analysis and take up a demanding role in designing the necessary systems for user needs.

The type of applications for development are varied, some will be on-line in addition to Batch mode using Minis for data collection.

O&M experienced candidates will also have a definite place in the systems teams. Prospects are excellent and early promotion to project leadership can be expected. Exceptional candidates can be recruited directly into senior positions.

CW 41/4

Overseas Assignments Contract/Permanent

Attractive Salaries

1.	Mini Computer Software	Germany
2.	Technical Writers	Switzerland
3.	IMS Systems Programmer	Germany
4.	CAD/CAM — Mechanical Eng.	Holland
5.	Production Control Analyst	Germany
6.	Anal./Prog. — Taskmaster/COBOL	Belgium
7.	Consultant/Prog. 370/COBOL	Germany
8.	Communications Programmers	Holland
9.	MVS Systems Programmer	Germany

We are interested to be contacted by candidates with the above experience for a variety of positions open at the above locations. Knowledge of a European language would be an added advantage.

CW 41/5

Mini Computer System Software

up to £8000

A Systems Company situated in Southern Surrey requires a Systems Software Consultant, to strengthen their design and implementation capability.

The successful candidate will need

- ★ Five years' Mini Computer experience
- ★ Thorough working knowledge of one mini computer real-time operating system (RSX would be an advantage)
- ★ Experience and ability to make rapid assessment of other operating systems and advise potential users on procedure

The position is primarily to provide a consultancy within the company, and it will also involve participating in the design and development of new systems

The Company can offer an opportunity for career development in a technical role, as well as Free Life Assurance, Pension Scheme, BUPA, and four weeks' holiday.

CW 41/6

Systems Analyst

Uxbridge **up to £6600**

Our client, a major Company, who manufactures Flooring and Ceiling Tiles, require a Systems Analyst in their head office in Uxbridge.

The installation, an IBM 370/138, under DOS/VS, Power/VS and CICS is situated in a five storey modern and luxurious office block with its main entrance in the Uxbridge shopping precinct.

The successful applicant will have 3 years' application programming experience preferably using Cobol, and designed, controlled the development of, and implemented a major computer system.

Naturally experience of 370 equipment is a must, and an added advantage would be experience of on-line programming, preferably usinf CICS.

The Company can offer good career prospects with on the job training, subsidised "Penthouse" restaurant, free life assurance, 4 weeks' holiday, and free personal accident cover.

CW 41/7

Programmer Analyst

W.12 **£5500 +**

A subsidiary of an International Multi-Billion Assurance Group, have a need for an Analyst/Programmer for their Life and Pensions Company, situated in Shepherds Bush, London.

The installation, an IBM System 32 using RPG11, is shortly to be upgraded to a System 34. Present systems are concerned with Administration of Life and Pensions Policies, with the introduction of Financial and Bureau systems being brought in house with the installation of the new Hardware.

Therefore, we are looking for a competent Programmer/Analyst who has at least two years' experience. Ideally in Insurance and RPG11, but consideration will be given to other people who are willing to be retrained.

You will be given the responsibility of controlling your own systems, reporting directly to the DPM.

The Company is at the forefront of expansion, enabling you to join this ground floor opportunity with excellent career prospects.

CW 41/8

Day-to-day Control for Computer Function

London
Up to £6000 plus fringe benefits

A unique opportunity has arisen for someone who can assist in the rapid development of a group computer service, using ABS Multi-Bus Systems with on-line VDU networks, in the Regents Park area of London.

Our client, an international rental organisation, is looking for a person who will report to the computer manager and be capable of:

- ★ Systems Planning (of additional installation)
- ★ Programming
- ★ Day-to-day operation and control of existing Installation

We would like to hear from people who have the confidence and ability to make a substantial contribution to the growth of this company and its computer operation.

CW 41/9

CCC

Central Computing Consultants

KINGSTON: 44 Wood Street, Kingston upon Thames, Surrey, England. Telephone 01-549 3212. Telex 27950.
DUBLIN: [illegible] 24 Lower Leeson Street, Dublin 2. Telephone 789577 (5 Lines)

£neg — MICRO ENTHUSIAST — London NW
Vacancy for a young person whose keenness has resulted in hands-on experience, kitchen-table, educational or retail, BASIC and machine code. Commercial experience OK but not essential.

c£5K — PROG/ANAL — Norfolk
System 34 installation using RPG2. Experience of three years or more needed. Full relocation expenses given.

to £9K — D.P.M. — Wembley
Opportunity for Senior Analyst/programmer to promote to senior DP position. Previous supervisory experience essential. Knowledge of NCR/NEAT3 preferred but our client may be upgrading installation.

168 Finchley Road, London NW3 6HP

COMPUTECH 01-794 0202

LONDON BOROUGH OF BRENT
WILLESDEN COLLEGE OF TECHNOLOGY
Principal A. K. Barnard BSc. PHD, CChem FRIC

DEPARTMENT OF SCIENCE

Required for January.

LECTURER I

in Biological Sciences to teach Biology to 'O' level, 'A' level and OND classes. An interest in any related field of study might be useful. Previous teaching experience is desirable.

Salary Scale L.I £3,594 to £5,736 inclusive

LECTURER GRADE II

to teach GCE A-level Computer Science and C & G 746/747. Data processing experience is essential and ability to teach statistics desirable. A degree/HNC in Computer Science would be an advantage.

Salary Scale L II £4,503 to £6,960 inclusive

Further particulars and application forms (SAE) are available from
The Chief Administrative Officer
Willesden College of Technology
Denzil Road, LONDON, NW10 2XD
Tel 01-459 0147

Applications should be returned within ten days of the appearance of this advertisement.

Relocation assistance available in approved cases.

AMERICA

SYSTEMS ANALYSTS
PROGRAMMERS
PROGRAMMER ANALYSTS

Blue Cross Blue Shield is again offering exciting opportunities to spend 1–2 years in America with our technical staff. Opportunities exist at all levels.

We are the largest U.S. Health Insurance Organization, and we have dual 370/168's with 450 on-line CRTS. We are involved in an array of sophisticated real-time applications, assuring you of excellent experience and training during your stay with us. We offer competitive salaries based on U.S. rates.

Positions exist for individuals with experience on 360/70 or similar main frames and include a wide variety of applications such as: on line systems design/analysis, applications programming, software hardware evaluation & data preparation, etc.

- RELOCATION AND RETURN AIR FARE PAID.
- EXCELLENT COMPETITIVE SALARIES BASED ON U.S. RATES IN THE RANGE OF $17K–$25K.
- GENEROUS COMPANY PAID BENEFITS.

To schedule a confidential interview with our senior management, write immediately to our representative: L. Levine, Royal Lancaster Hotel, Lancaster Terrace, London W2 2TY, or telephone him on 01-262 6737 commencing October 12th.

LONDON INTERVIEW: OCTOBER 16–19 (EXPENSES PAID)

TAUNTON DEANE BOROUGH COUNCIL

Terminal Supervisor

Salary: Grade A.P.5 (£4773-£5073)

The Council has a terminal link with an I.C.L. 1903T computer belonging to the Somerset County Council, established by means of its own C.M.C. 5780 terminal plus other support equipment.

The successful applicant will be responsible to the Finance Officer for (1) control of the terminal and its staff.
(2) advising on the application and updating of computer systems, and (3) liaising with the Somerset County Council.

Previous computer experience is essential and experience with the particular equipment mentioned above is desirable.

Housing accommodation may be provided; full removal expenses, £100 towards out-of-pocket expenses and assistance with solicitors' and estate agents' fees paid in appropriate cases.

Application forms and further details can be obtained from the Personnel and Management Services Officer, Taunton Deane Borough Council, Municipal Buildings, Taunton, Somerset, TA1 4AQ, telephone Taunton 85166 ext 33. Closing date Wednesday 25th October, 1978.

PLYMOUTH POLYTECHNIC

COMPUTER CENTRE

PROGRAMMER

Salary Range: £3420 to £4781 (plus £312 p.a. Supplement)

To work as part of a team engaged on student records, graphics, etc., and provision of basic teaching packages. All programmers undertake advisory work.

The centre has 64K 1903A and a 28K 2903 system providing a service for teaching research and administration.

Applicants should have knowledge of Fortran/Cobol/Basic and will be given the opportunity to take part in a variety of work with training given where necessary. Appointment will be made within the above salary range according to qualifications and experience.

Staff of the polytechnic have available to them a wide range of supporting facilities including sailing, golf, water skiing, etc.

Applications to be returned by October 27, 1978, can be obtained with further particulars from the Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.

COMPUTER SCIENTISTS SOFTWARE ENGINEERS

Software Engineers, Sr Systems Analysts, and Sr. Programmers needed to develop real-time systems and/or applications software for many projects including scientific studies, operations research, Management systems, Military research.

Urgent need for person to develop compiler for new high level Language.

Urgent need for software eng. with specific knowledge of IBM (MVS)

Very long term free-lance consultancy posts outside U.K. at very high remuneration.

Please send detailed résumé incl. educational details and phone numbers to U.T.S. Systems GMBH, 8 Munich 46, POB 460822, Frankfurt — Ring 243, W. Germany. TEL: Munich — 3233061.

SOFTWARE SPECIALISTS

Program yourself for a better career at
WARREN POINT LTD.
— THE LEADING INDEPENDENT SYSTEMS AND SOFTWARE ENGINEERING COMPANY

Capable programmers are required with at least three years' experience of high level and assembly languages. Coral preferred. The company's training programme aims continually to broaden and update the knowledge of its staff.

Exceptional prospects exist for able people in this established and expanding company, which has a sound reputation for the successful design and implementation of automatic testing and other advanced systems.

Excellent salaries and conditions are offered to work in our modern offices at Welwyn or Stevenage.

Call Keith Fraser today or write to
WARREN POINT LIMITED
Prospect Place
Welwyn, Herts AL6 8EW
Tel. Welwyn 6055

DOS SYSTEMS PROGRAMMERS

West End — £6000 to £7000+

Datascene has been retained by a number of companies to assist in the recruitment of Systems Programmers with at least 18 months experience of DOS/VS.
The equipment in use covers most of the IBM 370 series and any knowledge of CICS or TP would be a valuable asset. These opportunities offer the chance to become involved in a wide range of projects which range from financial to message switching and as some degree of user contact is involved the ability to communicate effectively at all levels would be a distinct advantage.
Starting salaries are dependent only upon ability and experience, and fringe benefits range from interest free season ticket loans to travelling expenses and performance bonuses.

Reference JC 41/1

FORTRAN PROGRAMMERS

West End — £3750 to £5800

If you are a programmer with 12 months' or more FORTRAN experience and can see little hope of career advancement in the near future, then perhaps you ought to consider a move.
An opportunity has arisen for a competent and ambitious programmer to join a large manufacturing company and so gain valuable experience in Financial Modelling and Systems Analysis on either IBM or ICL mainframes (they have both).
If you also like the prospect of a Non-Contributory Pension, Season Ticket Loans, subsidised restaurant, and cheap company products, then telephone at once.

Reference PG 41/3

OPERATORS

Junior and senior operators with 6mths plus experience on IBM, ICL, NCR, Honeywell, Burroughs, DEC and PDP are required urgently. Below is a small selection of our current vacancies:- if you don't see one to suit you, call us to find out about the many others available.

IBM 370 DOS — £4000
Junior op with 6mths + experience for large City installation.

IBM 370 DOS — £4800
E.London/City financial installation requires ops with 18mths exp. Perks include subsidised mortgage and loans.

IBM 360 DOS — £4400
1yr plus experience for this Essex manufacturing site. 2 shifts only.

IBM 370 OS — £4300
C.London site requires operators with 1yrs experience. Good career prospects.

ICL 1900 GII — £4000
Minimum 1yrs 1900 experience for C.London site.

ICL 1900 GII/MAN — £4300
Operators with 1 yr plus GII or manual experience required for City financial institution. Perks include bonus scheme, cheap mortgage, BUPA and loans.

ICL 2900 — £3500
6mths experience for C.London travel company. Perks include cheap holidays and flights.

BURROUGHS 4700 — £5000
Minimum of 2yrs experience necessary for this post. 2 shifts limited nights.

BURROUGHS 3700 — £4600
Snr Op with 18mths experience needed for this job with excellent career path + perks.

NCR CRITERION — £4300
Snr Op with a minimum of 2yrs experience for this post on NCR's new range. No nights and perks include cheap loan and mortgage.

UNIVAC 1108 — £4500
Minimum of 2yrs experience required for major manufacturing company.

UNIVAC 1108 — £4000
Minimum 1 yrs experience. Perks include good discounts with major chain store.

COBOL PROGRAMMERS

West London — £3000 to £6000

A major manufacturing organisation wishes to recruit additional staff to assist in the implementation of new projects at their West London computer Centre.
They are interested in programmers with all levels of experience to work on a number of new systems which are in various stages of development.
All programs are written in COBOL and experience on any major manufacturers' Hardware will be considered, as specialist training will be given where necessary to successful candidates.
The company, which has diverse interests throughout industry, offers excellent conditions of employment including free lunches and Life Assurance and the opportunity to develop beyond programming into Analysis and Systems work.

Reference JC 41/2

MINI ASSEMBLER PROGRAMMERS

West London — to £7000 + Car

A small but rapidly expanding Software House based in West London is seeking a number of fairly senior ASSEMBLER level Analyst/Programmers to work on a variety of new applications.
The minimum level of experience required is 3 years, and experience on any mini or micro processors will be of interest, although knowledge of ICL System 10 or 1500 equipment would be ideal.
There are many new projects to be implemented, and these positions will offer the right high-calibre people opportunities for involvement from the earliest stages of development.
Salaries will be exceptionally good, and the package will include a company car.

Reference PG 41/4

Datascene Recruitment Ltd
Sceptre House
169-173 Regent Street
London W1R 7FB

datascene 01-439 7871
24 hour answer phone

SALES EXECUTIVES (TERMINALS)

LONDON BASED

INCOME PACKAGE £12,500 + car benefits, etc.

Our client is a major manufacturer/supplier of Data Preparation and Terminal Equipment to the U.K. They have a superb range of products and are acknowledged as being Market leaders in their field.

They are now seeking Sales Executives to operate in the London and surrounding areas, training will be given to successful candidates, but, ideally, you should have the following.

- ★ An understanding of terminal products
- ★ A sales personality to accompany a good track record in selling
- ★ A genuine desire to succeed

Candidates who are currently in Technical Sales Engineering positions should also apply.

Richard Champion — 021-236 3781 (24-hour Answering Service) — Hagley 4166 (Evenings and Weekends)

SPECIALIST COMPUTER RECRUITMENT LIMITED

SCR

BIRMINGHAM 021-236 3781
Freepost, Equity and Law House,
35-37 Great Charles Street Queensway, Birmingham B3 2BR

MANCHESTER 061-833 0427
Freepost, Blackfriars House, The Parsonage, Manchester M3 2BB

LONDON 01-935 0671
Freepost 13, 3 Mandeville Place,
Wigmore Street, London W1M 5LB

Computing Services Association

KBS Computer Services
155 OLD KENT ROAD, LONDON SE1 5UT

PROGRAMMERS

LONDON — TO £7,500

Get in at the ground floor level with the new KBS LONDON CENTRE where a SYSTEMS & PROGRAMMING DIVISION is being established to cater mainly for client contract situations. Experience counts most but two strings to any bow (Languages, Hardware, Operating systems) a great advantage. Top salaries. Big company benefits. Great enthusiasm and morale throughout the Company.

Ring for an application form NOW.

Daytime or Evening

COBOL PROGRAMMERS
European Assignments
2900 VME/B

PROGRAMMERS and SENIOR PROGRAMMERS .... to £13,000
SENIOR PROGRAMMERS with IDMS and TP EXPERIENCE .... to £17,000

ICL — 1900
UNIVAC — 1100
IBM — 370
BURROUGHS — 6700
HONEYWELL — 66

Programmers with 3 years' COBOL experience on any of the computers listed on the left are required to work on exciting development and conversion projects as part of the Marcol-European team. Preference will be given to those applicants who have at least 6 months' experience on VME/B; however, 45 good programmers are needed and we will give VME/B training if required ... so no matter what machine your COBOL work has been on, please do apply now.

For full details and a confidential [illegible] JIM FORT or PENNY BAILEY

Total capability from the MARCOL Group
50 Queens Gardens London W2 3AF Tel 01-402 9355 (24 hours)
A member of the Norwich Union Group

SALES EXECUTIVES (MINIS)

★ EXCELLENT TECHNICAL SUPPORT
★ EXCELLENT INCOME PACKAGE
★ EXCELLENT COMPANY
★ EXCELLENT PRODUCTS

Our clients, who have created their enviable reputation based on excellent products and reliability, now wish to identify sales personalities to operate in territories in London, the Home Counties and throughout the United Kingdom.

These superb opportunities have arisen due to planned and controlled growth in the 'mini' sector of a major Computer Manufacturer.

Applicants should possess:

★ a confident sales personality and have a proven successful track record in selling.
★ previous experience of selling commercial mini computers or small business systems.

For further details contact Cathy Tracey on 021-236 3781 (24-hour answering service) or: 021-454 3351 (evenings and weekends).

Interviews to be held in London, Birmingham and Manchester.

SPECIALIST COMPUTER RECRUITMENT LIMITED

SCR

BIRMINGHAM 021-236 3781
Freepost, Equity and Law House,
35-37 Great Charles Street Queensway, Birmingham B3 2BR
MANCHESTER 061-833 0427
Freepost, Blackfriars House, The Parsonage, Manchester M3 6BB
LONDON 01-935 0671
Freepost 13, 3 Mandeville Place,
Wigmore Street, London W1M 5LB

Computing Services Association

MYRIAD APPOINTMENTS LIMITED

Computer Personnel Consultants

NEW INSTALLATION

ANALYST/PROGRAMMERS PROGRAMMERS

N.W. LONDON **£4,000-£6,500**
1-4 years' experience

These positions offer positive career prospects to PROGRAMMERS and ANALYST/PROGRAMMERS seeking a greater challenge, more advanced technical experience and additional responsibility.

Having successfully computerised a number of accounting and management information systems, the company is now making a major hardware enhancement to assist with the Group's three year expansion program throughout Europe. Working within a small specialist team the successful candidates will have the opportunity to broaden their experience on unusual applications using the latest techniques and equipment.

Applicants should have from one year's programming experience using any commercial language and possess the potential to progress within a progressive and expanding organisation.

Ref. N/3 1210

24-hour answering service
Please telephone for a confidential discussion or write to:
30 Fleet Street, London EC4Y 1AA
01-353 0981

OPERATORS

WELLCOME TO THE BEST TEAM

Due to the success of our recent Operations recruitment campaign, our client, THE WELLCOME FOUNDATION, has decided to further enhance their team to cope with the development of computer operations within the group. This development follows the successful introduction of 2 x IBM 370/148s with the operating systems and IMS under the control of OS/VS1 and VM 370. Extensive communications equipment includes local and remote VDUs, typewriter terminals and RJE facilities throughout the U.K. It is a highly sophisticated operation certainly one of the most advanced in the country.

The positions offer possibly the most comprehensive training and career development program you are likely to find in the industry. Not only will there be opportunities to move into commercial systems and programming, but also why not consider Production Support, Network Control, Control Scheduling, all of which are expanding departments providing alternative career prospects.

SENIOR OPERATORS:

Applicants should have at least two years' IBM 370 experience and a thorough knowledge of OS/VS1 or OS/MFT operating systems. Supervisory skills, reliability and ambition are also essential qualities. A working knowledge of VM would also prove useful. These opportunities should be viewed as an outstanding career move. SALARY RANGE BASIC £4000-£4800 + SHIFT ALLOWANCE.

OPERATORS:

You should possess a sound training in a large IBM 370 environment and be able to demonstrate a working knowledge of OS/VS1 and/or OS/MFT operating systems. An introduction to VM would also be an asset. It is therefore probable that you have been involved in operations for about twelve to eighteen months. SALARY RANGE: BASIC £3500-£4300 + SHIFT ALLOWANCE.

The Benefits package is outstanding. The operation is based on a sociable TWO-SHIFT SYSTEM and the DARTFORD, KENT, location provides easy access from London, Kent and areas of Essex, Surrey and Sussex. The RELOCATION PACKAGE is one of the best in the industry and additional benefits include four weeks' holiday, licensed Sports and Social Club, Staff Restaurant and Shift dining facilities.

Contact us for an immediate appointment for interview, company brochure and all additional information.

D.P RECRUITMENT LTD.,
KENT HOUSE, 87 REGENT STREET, LONDON W1R 7HF
TEL: 01-437 2062/3/4 (24-HOUR ANSAPHONE)

dp

amdahl

Amdahl is a leading manufacturer of large-scale, high-speed computers. We have established our first manufacturing base outside the U.S. in Dublin to further our continued expansion. The following key personnel will be recruited without delay.

SYSTEMS TEST ENGINEERS

You will be responsible for final test, debug and verification of Amdahl computer systems. The performance of these tasks involves the use and full knowledge of large scale data processing systems and high speed measurement techniques. Your background should include experience with final test or field maintenance of medium or large scale computers or S/370 compatible peripheral controllers. College graduates with electrical engineering qualifications emphasising digital logic design are encouraged to apply.

PLANT ENGINEER

You will be responsible for the organisation and direction of maintenance, construction and utility services to the plant. This involves preparation of capital order requests for major equipment, co-ordination of the construction of the proposed new manufacturing facility and the introduction of planned preventative maintenance systems. Your background should include at least 5 years plant/facilities engineering in a manufacturing environment and a degree or equivalent qualification in mechanical or electrical engineering.

Salaries and conditions of employment for these positions will be attractive. Assistance with relocation expenses will be payable. Applications in writing or telephone for Application Form to:

The Personnel Director,
Amdahl Ireland Limited,
140/141 Slaney Close,
Dublin Industrial Estate,
Dublin 11.
Telephone (01) 307966

Training for these positions will be carried out at the Amdahl headquarters at Sunnyvale, California.

amdahl

Metropolitan Borough of Wigan
WIGAN COLLEGE OF TECHNOLOGY
Applications are invited for the post of

LECTURER GRADE I IN COMPUTING

with effect from 1 January, 1979 in this recently designated training college.

The successful applicant will be required to contribute lectures on Computer Science and Data Processing to various courses at sub degree level. A knowledge of COBOL and a willingness to participate also in some of the mathematics teaching of the department will be an advantage.

Salary Lecturer Grade I in the range of £3,192-£5,334

Further particulars and application forms from the Chief Administrative Officer, Wigan College of Technology, Parsons's Walk, Wigan WN1 1RR to be returned within 14 days of this advertisement.

SYSTEMS PROGRAMMER

CITY — £7,000

Highly reputed firm of international bankers with business interests in many areas throughout the world seek to recruit systems programmer. He/she will be expected to have IBM DOS and some COBOL experience to work in a supervisory role, being responsible to the manager, giving a certain amount of technical training, and some programmer support. They have a variety of on-going projects including the up date of CICS (CICS & VSAM experience a great asset). Company can offer

★ Excellent working conditions
★ Mortgage assistance
★ Personal loan scheme, STLS
★ Subsidised restaurant

For further details ring or write to:

KNIGHT PROGRAMMING SUPPORT LIMITED
27 NOEL STREET, LONDON, W.1
01-734-0152/3010, 24 hours

COMPUTER SYSTEMS & ENGINEERING PEOPLE

Up to £12,000 p.a. + car/benefits

Computer Marketing urgently require top calibre people wishing to move gently into sales - throughout the UK. Enjoy a 5 figure income, plus company car and generous benefits. Telephone Glenys Higgins now, on Purfleet (04026) 7161, to arrange an informal interview.

UK FIELD SERVICE ENGINEERS
also required: salary circa £5,000 p.a. plus car. Telephone now for full details.

COMPUTER MARKETING
Ecfield House 641 London Road West Thurrock Essex
Purfleet (04026) 7161 Telex 896786
Distributors of DEC Microcomputers, DEC LSI-11/2 components, computer terminals and microprocessor training aids.

OPERATOR for TWO SHIFT SYSTEM in Croydon £3500 to £4500

If you have upwards of one year's operating experience gained in an IBM environment then this is the ideal opportunity for you.

A large international company successfully installed earlier this year an IBM 370 mainframe in a purpose built data centre in Croydon. Running under DOS/VS and POWER/VS, both batch and on-line work is processed.

An Operator is required to complete the existing operations team. Two shift system is worked with two operators per shift. The working conditions are first class and job involvement is encouraged. The company is well known to us and we have no hesitation in recommending the friendly working environment to any operator who is considering changing his job for the first time. A competitive salary will be paid together with excellent benefits, [illegible] free life assurance and non contributory pension.

For further details write or telephone our Croydon office quoting reference CW4L89 [illegible]

COMPUTER AND PROFESSIONAL PERSONNEL CONSULTANTS
CAPP ASSOCIATES
Computing Services Association
[illegible] CR9 1TN 01 686 [illegible]

NEXT WEEK
BANKING AND INSURANCE
A RECRUITMENT FEATURE

On October 19, Computer Weekly will be highlighting career opportunities in the Banking and Insurance Sectors.
To advertise in this important feature contact:

EDDIE FARREL on 261-8097 or
MARK WILLIAMS on 261-8019

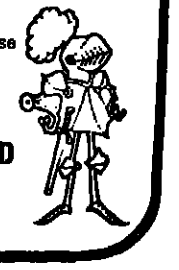
Copy deadline is 13th October. Early booking is advisable.

PROGRAMMER

HOLLAND £11,000c.

International company manufacturing sophisticated technical products for world-wide distribution seeks for exciting newly created position. Company have installed PDP-11 using BASIC+ and consequently require person with good knowledge of the same, with a good personality and strong desire to accept a challenge.

* Prestige company with American backing
* Good deal of development work using integrated database
* Excellent prospects and early salary review.



For further details ring or write to

KNIGHT PROGRAMMING SUPPORT LIMITED
27 NOEL STREET, LONDON, W.1
01-734 0152/3010, 24 hours

KBS Computer Services
RECRUITMENT DIVISION,
State Insurance Building, 14 Dale Street,
Liverpool L2 4TH. TEL: 051-236 7711.

SENIOR PROGRAMMERS £4,000 – £5,000 LIVERPOOL REF: LL 78107	Programmers with a minimum three years' COBOL and BAL experience could make real seniority with client operating IBM 370 under DOS. Imaginative assignments scheduled. Relocation assistance available.
SENIOR ANALYSTS & PROGRAMMERS £6,000 – £6,500 MERSEYSIDE REF: LL 78111	Over three years' systems or programming background could gain you senior status in client's IBM 370 installation. Main language COBOL, mixture of batch and on-line database work. Plans in hand for distributed processing. Flexitime scheme. Holidays 4+ weeks. Relocation assistance available.
ASSEMBLER PROGRAMMERS £3,500 – £4,750 LIVERPOOL REF: LL 78105	Assembler programmers can look to a considerable widening of their horizons if they join our client's twin IBM 370 installation. A minimum of two years' experience will qualify you to work in an expanding team. The computer department serves a very large Group organisation which yields a constant variety of assignment. General terms and conditions of employment are very good.
PROGRAMMER & SYSTEMS ANALYST £5,000 – £6,000 SURREY REF: LL 78114	Would you like to work for a company of world-wide repute? Our client seeks a programmer and a systems analyst. Installation has an IBM 360/50 under DOS. Assembler is the language. Applications are on-line, large projects on the way. Benefits package excellent.
PROGRAMMERS £4,000 – £4,750 MERSEYSIDE REF: LL 78109	Our client, OTIS Elevators, requires COBOL programmers to work on database systems. You should have upwards of 18 months experience and an appreciation of on-line facilities would be helpful. An IBM 370/125 is in operation. Relocation assistance can be offered.
COBOL PROGRAMMERS £4,000 – £5,000 LIVERPOOL REF: LL 78104	COBOL PROGRAMMERS are required by our client, a food manufacturing company, to work in a Honeywell Level 66 T.P. installation, with a development schedule extending well into the future. These permanent appointments offer both security and good promotion opportunities.
COBOL/PL1 PROGRAMMERS £4,000 – £5,000 AVON REF: LL 78101	Our client is preparing for a major restructuring of their data processing installation which involves a change from ICL1900 to IBM 370 hardware. If you have upwards of 18 months COBOL/PL1 experience now is the time to make your mark in a well established installation. Relocation assistance is given plus a large company benefits package.
COBOL PROGRAMMER £4,500 CAMBRIDGESHIRE REF: LL 78113	Our household name client wants a COBOL programmer with over 2 years experience. Assembler know-how would be invaluable. An IBM 370/168 under MVS is installed. Over 4 weeks holiday. Subsidised canteen. Profit-sharing scheme.
ANALYST/PROGRAMMER £4,500 LIVERPOOL REF: LL 78108	Professional services client requires Analyst/Programmer with upwards of two years experience. Some travel. You should like meeting people. Good benefits package.

LOGISTIX
Data Processing Recruitment Consultants

Fortran Programmers
Germany & Denmark

Salary: £13K plus benefits

A prestigious Mainframe and Mini Computer Manufacturer requires FORTRAN programmers for its FRANKFURT and COPENHAGEN Regional offices. Whilst the applications under development are sophisticated Real-Time projects previous experience of Real-Time is not essential but solid FORTRAN programming expertise is a pre-requisite.
Successful candidates are likely to be earning £6-£7,500 per annum in the U.K. Willingness to relocate to Germany or Denmark for an extended period is absolutely essential and to assist you in your removal our client will pay all relocation expenses in addition to providing initial paid accommodation.
Interviews will be held in London, Frankfurt or Copenhagen during October and early November. Candidates should be prepared to take up appointments during November.

Contract Engineers
Germany & France

Rates: £300-400 per week (Tax Free)

A principal U.S. Mini computer manufacturer urgently requires qualified Hardware Engineers on long or short term contract to be based in Germany or France. Ideally candidates will have experience of 32 or 16 bit Minis and/or peripheral hardware including fixed and removable disk drives of the WANG or CDC type.
Our client urgently requires to fill these positions in order to cope with a 300% increase in sales throughout Europe over the past [illegible] months. For those who would consider permanent employment, several of these positions are [illegible] after 6 months.
Contracts will be available on 3 and 6 month basis with option to renew. Interviews will be held in the U.K. as soon as applications are received and it is hoped that at least 50% of appointments will commence within 30 days.

IMS DB/DC
E.E.C.

Salaries: £15,000+ +p.a. (Tax Free)

Our Client is urgently seeking Systems and Applications Programmers, Systems Analysts & Designers on permanent or contract assignment for a choice of locations in Germany and other E.E.C. Countries. PL/1 and ASSEMBLER are the relevant programming languages and applications are invited from those with either Database or Data communications experience.
Two years IMS expertise is the minimum requirement but for senior positions three or more years will be necessary. Whilst language ability would be beneficial it is in no way a pre-requisite.
In addition to an excellent salary you will receive numerous cash and in kind benefits which in aggregate form a package of considerable attraction. Interviews will be held either in London or our client will fly you to the Continent for the day and offers will be made to all successful applicants within 7 days.

ICL 2900 & 1900
Berkshire & Cheshire

Salaries: £6-8K (permanent) £250 p.w. (contract)

A very prestigious client with U.K. headquarters in Berkshire and regional offices in Cheshire and other U.K. locations has asked Logistix to assist in recruiting Programmers, Analysts and Consultants with in-depth experience of 1900, New Range and 2900 Main-frame systems.
In particular they are interested in T.P. and Database expertise under DME VME or GEORGE II, III, & IV. The principal languages in use by our clients are COBOL, PLAN and FORTRAN. Additionally our clients would like to meet people with 1900 2900 conversion experience.
These positions are open to those seeking either permanent or contract employment; the former carrying numerous fringe benefits of considerable attraction. Relocation expenses will be paid if applicable. Interviews will be held as soon as applications are received.

Systems Designers & Programmers
City of London

Salaries: £6K-£8.5K (a.a.e.)

A "household name" Insurance and Assurance Group with extensive computer facilities in both the City and several E.E.C. countries requires additional D.P. personnel up to Project Manager level for both systems development and hardware upgrade projects.
Ideally Programmer candidates should offer 3 years continuous PL/1 or COBOL programming experience in an on-line environment. Of particular interest will be those who have current Tele-processing or Database involvement. The Company values highly its computing professionals and consequently you will become a member of a specialist project team working to strict documentation and programming standards.
Our client offers a subsidised mortgage facility (after a brief qualifying period), personal loan scheme, private health and a non-contributory pension plan. Interviews will be held during the next month.

Logistix, Freepost 32, London WIE 3YZ
01-491 4636 (Reverse charges) Telex 28800
LOGISTIX
Avon House, 366 Oxford Street, London WIN 9HA

OPERATIONS

ALL INSTALLATIONS IN LONDON AND THE HOME COUNTIES

targa STAFF CONSULTANTS

IBM	DOS	OPS ANAL	5YR	£5500c	DAYS
IBM	OS	OPS ANAL	4YR	£4500c	DAYS
IBM	OS	SHIFT LDR	3YR	£5000c	3 SHIFTS
IBM	OS	SNR OPS	2YR	£4500c	3 SHIFTS
IBM	OS	OPERATORS	1YR	£4200c	2 SHIFTS
ICL	GII	SHIFT LDR	3YR	£5000c	3 SHIFTS
ICL	GII	SNR OP	2YR	£4500c	3 SHIFTS
ICL	GIII	OPERATORS	1YR	£4200	2 SHIFTS
ICL	MANUAL	OPERATORS	1YR	£4200	3 SHIFTS
ICL	2900	OPS/SHT LDRS	1 YR	£5000c	3 SHIFTS
ICL	SYS4	OPERATOR	1YR	£4000	3 SHIFTS
BURROUGHS	MCP	OPERATOR	2YR+	£5000c	2 SHIFTS
BURROUGHS	MCPV	OPERATOR	6M+	£3600c	3 SHIFTS
UNIVAC	EXEC8	OPERATOR	1YR	£4000c	3 SHIFTS
NCR	ANY	OPERATOR	1YR	£4000c	3 SHIFTS
DEC	PDP	OPERATOR	1YR+	£4200	3 SHIFTS
DEC	PDP	OPERATOR	1YR	£3500	DAYS

DATA CONTROLLERS — WE HAVE MANY VACANCIES IN ALL-AREAS. £3000-£5000

FOR MORE DETAILS PLEASE CALL TODAY
TARGA COMPUTER DIVISION
3 LIVERPOOL STREET
LONDON EC2M 7NH
01-283 2751

TARGA RECRUITMENT LIMITED
437-7581 283-6412

SENIOR OPERATIONS IN NORTH LONDON

SNR. OPERATOR to £5800
At least three years' sound 370 experience is required to join the team at this large installation working on a 3 shift system Monday-Friday.

OPS SUPPORT to £5400 **Non-Shift**
Applicants must have four years' 370 experience coupled with excellent working knowledge of JCL to become a member of this interesting department.

SNR OPERATOR to £5200
Ideally candidates should have at least two years' 370 experience preferably in a Senior position for this three-shift, five-day week installation. Excellent prospects for promotion and advancement into programming.

Sounds interesting? Then contact Carol McGovern on 01-836 6775

Computer Personnel International
A DIVISION OF COMPUTER SERVICE INTERNATIONAL
110 St Martin's Lane, London WC2N 4BH 01 836 6775

Sell Success

with CTL, one of Britain's largest [illegible] embarked upon a planned [illegible] projects which include the [illegible] applications

To further our expansion we now have [illegible]

Area Sales Manager up to £20,000+Car

Based in London, the successful candidate will spearhead the sales of our wide range of products to both new and pre-[illegible] throughout the Outer London/Essex/Norfolk/Suffolk area. Earnings potential, with a realistic base salary plus commission, is in the region of £15,000 to £20,000. During the first six months, income will be guaranteed at an agreed level.

Candidates will have a successful track record of systems selling to the commercial market. Good communication and human relations skills and the ability to sell standard and custom built technical products are essential.

Sales Support Analyst up to £8,000+Car

to become an integral part of our Sales Team providing the technical support for prospects at the pre-sales stage. The successful candidate will assist in writing proposals, write user demonstrations, conduct benchmarks and give presentations to prospects.

Candidates will have gained a sound knowledge of the commercial world and its computer systems, possibly as a user or programmer. Good communication skills are vital. Previous sales experience and/or knowledge of transaction processing and COBOL would be a distinct advantage.

In addition to an attractive benefits package the company offers excellent career prospects. Please write or telephone, indicating the post in which you are interested, to: Jill McDavitt, Personnel Manager, CTL, Eaton Road, Hemel Hempstead, Herts HP2 7BQ. Tel. Hemel Hempstead (0442) 3272

CTL Computers Communicate

SYSTEMS ANALYST 7K Min.
PROGRAMMER 5.5K Min.
North London

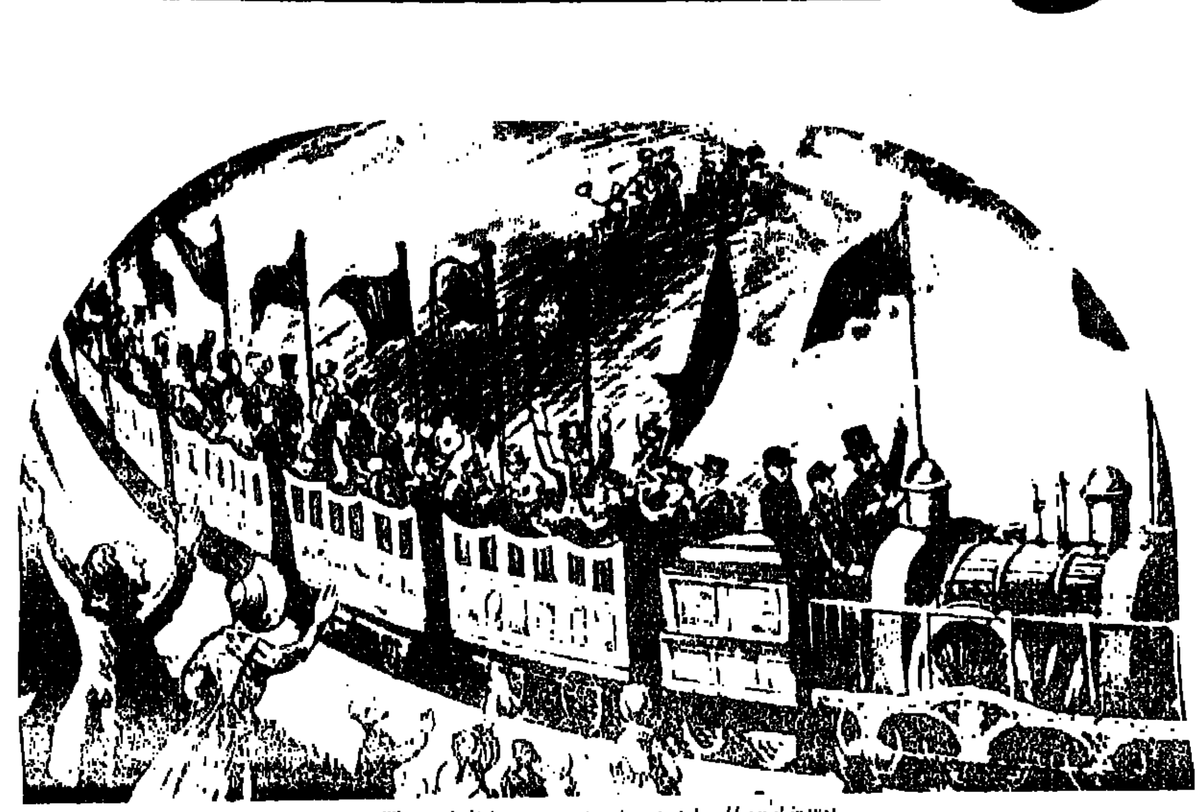
This Company really knows how to treat its Computer Staff. Bank type benefits, training and hours in invigorating atmosphere of a thoroughly Commercial Company.
For example the Programmer would be trained in OSVS, CICS, TSO (but must have 2 years Cobol) and is unlikely to be over 24.
The Analyst would probably have around 2 years experience and come from a programming background

PHONE:

KEY COMPUTER PERSONNEL 01 949 1140

WANTED URGENTLY
Audio interface board for Tektronix 4010 series terminals parts number 018 0086 01
Contact: Keith Pike
COMPEDA LTD.
Compeda House
Walkern Road
Stevenage
(0438) 56123

FOR CLASSIFIED ADVERTISEMENTS IN COMPUTER WEEKLY
Ring Eddie Farrell or Mark Williams
on 01-261 8025
or 01-261 8013



Thomas Cook's first excursion from Leicester to Loughborough in 1841.

Now we travel by computer!
Come into Thomas Cook's computer-based travel world

Salaries £4200-£6300

Commitment to computer systems at Thomas Cook means opportunity. Opportunity to come into a fast-expanding business . . . influence plans and decisions . . . make positive contributions to a wide sphere of international interests.

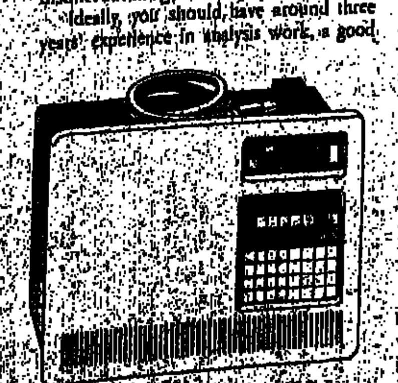
We are now looking for more people to join us in Peterborough on projects which only a worldwide banking and travel group can offer you – a new international travellers cheque system . . . a major point-of-sale network for our branches . . . expansion of our real-time holiday reservation system . . . and systems development in central accounting facilities. In particular, we are looking for specialists in the following roles:–

Analysts

A major on-line project involving IDMS will very likely be your first assignment, therefore hands-on experience of a data base product or a teleprocessing project would be a distinct advantage.

Ideally, you should have around three years' experience in analysis work, a good background in programming, a flair for structuring business problems and the ability to follow through with user orientated solutions.

Strong leadership qualities are required for some of the more senior vacancies together with an exceptional ability for written and oral communication.



Analyst/Programmers

Our Branch Automation project involves IBM Series 1 equipment and PL/1. Successful applicants could well be numerate, recently qualified graduates with some University computing experience and strong bias towards small-scale computer systems. They must be versatile with strong technical potential and good inter-personal skills.

Programmers

Our main frame (IBM 370/138) programming department is engaged in a wide range of interesting work which includes on-line accounting systems and real-time holiday reservations systems. You would not need to transfer to analysis to succeed, as our structure recognises career progression to a high level within the Programming activity.

We practise structured programming methodology in a way that results in total involvement in the design process.

Positions exist at all levels and we will provide conversion training to meet our requirements for IBM main frame technology, ASSEMBLER and COBOL as necessary.

Senior O & M Analyst

A senior appointment calling for in-depth experience and flexibility to work on wide-ranging projects, including many of an interdisciplinary nature. Must be able to work independently, or, depending on the project, as leader of a small team.

All candidates must have a good university standard of education with English Language and Mathematics among their 'O' level attainments.

Relevant work experience is essential, but we are prepared to supplement your skills with specific training in appropriate technologies if you can demonstrate the basic abilities we are seeking. Our cost-of-living review is effected 1st November annually.

Please write, giving details of your career, to Terry Spiller, Personnel Manager, Finance Services, Thomas Cook Group Limited, P.O. Box 36, Peterborough PE3 6SB.

Main frame equipment is backed by a half-megabyte IBM 370/138.

Thomas Cook

OPPORTUNITIES IN SHEFFIELD

EXCELLENT CAREER POTENTIAL **GOOD SALARIES** **RELOCATION EXPENSES**

SYSTEMS ANALYSTS

Our client, who is undertaking an intensive programme of dp systems development, wishes to recruit the following:-

Senior Systems Analyst **c.£6000**

An experienced systems analyst is required with a good background in general business and commercial applications. A programming background, whilst not essential, would be useful. (c/78088)

Systems Analysts **c.£5500**

These positions offer good career prospects to analysts with about 12 months experience or analyst/programmers or senior programmers with several years programming and design experience who now wish to pursue a full-time career in analysis work. (c/78089)

SYSTEMS PROGRAMMER to £5500

This client, who operates an IBM 370/138 under DOS/VS, CICS and DL/1, wishes to recruit an additional SYSTEMS PROGRAMMER.

This is a key position offering excellent career prospects with a progressive company.

Previous IBM experience is essential as is experience at least of some of the software referred to above. (c/78090)

Candidates who are interested in these or other positions in the Sheffield area should contact Ivor Norton, quoting the appropriate reference, at their earliest convenience.

Ivor Norton Management Services Ltd
Recruitment Consulting Division
P.O. Box 63, Copthall Tower House, Harrogate HG1 1TS. Tel: Harrogate 66628.

WEST YORKSHIRE/LEEDS
SYSTEMS ANALYSTS AND PROGRAMMERS

Our clients who are in the early stages of an extensive programme of major systems development need one or two more systems analysts and programmers to complete the applications development teams.

The opportunities are SECOND TO NONE and involve working on the development of new systems, using brand new hardware, in an environment where the impetus for dp development comes right from the top of the company.

SYSTEMS ANALYSTS to £6000

Candidates should have a good background in commercial data processing with a minimum of two years systems analysis experience.

Application areas of particular interest are financial and accounting and distribution and stock control.

Whilst not essential a programming background could be useful (c/78091)

PROGRAMMERS £4250 - £5250

Applications are invited from COBOL programmers with two or more years experience.

Particular mainframe experience is not important as any relevant retraining will be provided by the client.

Starting salaries within the above range will be offered depending on experience of particular candidates. (c/78092)

To apply telephone Ivor Norton or send coupon FREE to Ivor Norton Management Services Ltd., Freepost, Harrogate HG1 1BR

PERSONAL DETAILS REF: C/78091/2
NAME
ADDRESS
HOME TEL. NO. AGE
OFFICE TEL. NO. (will be used discreetly)
EDUCATION QUALIFICATIONS
DATA PROCESSING EXPERIENCE
YEARS PROGRAMMING
YEARS SYSTEMS ANALYSIS
LANGUAGES USED
MACHINES WORKED ON
PRESENT SALARY SALARY REQUIRED
JOB SOUGHT

Ivor Norton Management Services Ltd
Recruitment Consulting Division
P.O. Box 63, Copthall Tower House, Harrogate HG1 1TS. Tel: Harrogate 66628.

HOLLAND

Immediately required for our projects in the Amsterdam area, experienced

PL/1		PL/1
CICS/VS	or	IMS DB/DC
DOS/VS		OS

SENIOR PROGRAMMERS

We offer;

- A salary of £375 - £400 p.w.; a six-month contract initially.
- Travelling expenses to Holland; assistance in finding accommodation.
- An interesting and challenging experience.

We are planning initial interviews in London. Please send your resume to Mr. Robert Voges, Etna 19, Amstelveen, Holland, or phone 0103120452022, for further information or an appointment.

SHARE
Etna 19, 1186 CM Amstelveen, Holland

UNIVERSITY OF ESSEX

Computing Service

Applications are invited for the following posts

(a) Systems Programmer (Reference AG/53)

The duties of this post are the development and maintenance of the operating system and other basic software fundamental to the operation of the Service. The successful applicant will join an established Systems Group. An interest in operating systems, computer communications and the use of microprocessors is desirable. Experience of working in Assembly language or other low level languages, system programming experience, and a lively interest in computer and communications hardware would be advantageous.

(b) Mathematical/Statistical Programmer (Reference AG/54)

Applicants should have interests in the numerical aspects of computing with particular reference to statistics and their use in the social sciences. Experience in the design and maintenance of Social Science packages, and familiarity with the concepts of low level language programming would be an advantage. The successful candidate will join an established Programming Group, which has responsibility for all aspects of software maintenance and development on the University's Service machine.

The Service is based on a DECsystem-10/70 which will be upgraded shortly to a DECsystem-10/90. Both posts are established in the grade of Computer Officer (Range 1A), salary scale £3,883-£6,558 (under review).

Applications, quoting the appropriate reference and including a curriculum vitae and the names and addresses of two referees, should reach the Registrar (AG/53/CW or AG/54/CW), University of Essex, Wivenhoe Park, Colchester CO4 3SQ, from whom further particulars may be obtained, by October 20th, 1978.

DOS OPERATORS
Mo Nights
£4,500
Ring GEOFF CARR
01 402 9355

datascene

CONTRACTS

ASS/COBOL	OS	S. COAST
CICS	DOS/VS	CITY
DATAPOINT	DATABUS	CITY
HP3000	COBOL	CITY
SY3	RPG II	HANTS
1900	PLAN	W. LONDON
WANG	BASIC	N. LONDON
COBOL	OS	N. LONDON
COBOL	OS	S. LONDON
PDP II	MACRO	S. LONDON

£180-£300/WEEK

CALL

BOB EDWARDS

Datascene Recruitment Limited
Sceptre House
169-173 Regent Street
London W1R 7FB
01-439 1854
24hour answer phone

UNIVERSITY OF LONDON INSTITUTE OF EDUCATION
PROGRAMMER A

OPERATORS
LONDON & HOME COUNTIES
01 995 3883
FREEPOST LONDON W4 3BR

CLASSIFIED COPY

All classified copy should reach our offices no later than 5.30 pm on the Monday preceding Thursday's publication. If complete artwork is supplied 12 noon on a Tuesday.

Ring Ian Carter for further details on 01-261 8016.

YOU'RE THE ONES THAT I WANT!
COBOL—RPG II PL/1 PROGRAMMERS
Call me today — Don't delay
PAMELA at VIP Consultants
Call VIP CONSULTANTS 01-491 3696

The pass card to 3000 potential employers.

Here is a unique and efficient way of placing your name and abilities before many potential employers without leaving your armchair.

It won't involve you in inconvenient meetings or undercover 'phone calls. You won't be pestered by us. You won't be asked for any money.

Over 3,000 good employers, of all sizes in all industries, send us details of their personnel requirements. When you post the coupon below, we will send you an application form to be completed and returned with relevant details about yourself and those companies you don't want to join (which we guarantee to treat as confidential).

We match your skills and ambitions with our clients' needs. Only when we find one of them looking for someone like you – only when we have checked again that you have not included them on your list of employers not to be contacted – will we tell them about you. Then the invitation to talk comes directly from that employer.

So you think of all the different types of employer you'd like from those 3,000 companies – and we've been doing this for seven years – you see that we've helped thousands of people to better opportunities and higher earnings.

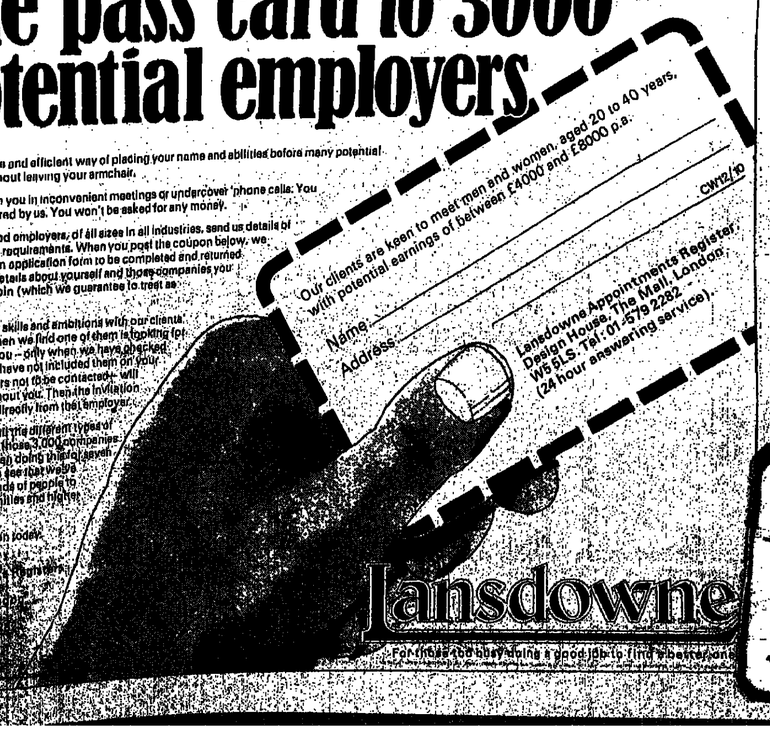
Post this coupon today.

Lansdowne Appointments Register, Design House, The Mall, London W5 2PS. Tel: 01-579 2282 (24 hour answering service).

Our clients are keen to meet men and women, aged 20 to 40 years, with potential earnings of between £4000 and £8000 p.a.

CWT2/10

Name
Address



Lansdowne

For those who enjoy doing a good job (and being seen to)

MYRIAD APPOINTMENTS LIMITED

Computer Personnel Consultants

PRODUCTION & CLIENT SUPPORT MANAGER

S.W. LONDON/SURREY **c £6000**

Our client, a major service bureau with centres throughout the U.K. and Europe, is seeking a Manager who will be responsible for the Production and Client Support departments at one of their centres in South London affording easy access from the Southern Home Counties.

Managing a team of twelve people the successful candidate will be required to ensure the installation's day-to-day smooth production running and that an effective client support and liaison service is maintained.

The vacancy is likely to appeal to someone already working in a similar environment or an operations person with sound experience in daily production and user liaison activities who is now seeking to take up a managerial role.

The Production and Client Support Manager is a member of the management team and in addition to an excellent commencing salary will enjoy first-class conditions of employment associated with a major organisation.

Ref. N2/1210

24-hour answering service

Please telephone for a confidential discussion or write to:
30 Fleet Street, London EC4Y 1AA
01-353 0981

Cyngor Sir DYFED County Council

Applications are invited for the following post

EDUCATION DEPARTMENT
Llanelli Technical College

PUNCH LINK OPERATOR

(CFE.7/12)

Grade Tech 1 £1509-£2967 plus salary supplement

The successful applicant will work in the Computer Section of the Science and Mathematics Department. Applicants will be expected to be competent to use computer terminals, both on and off line

The person appointed will be required to assist generally in the work of the department

Application forms and further particulars are available on receipt of a stamped addressed envelope from the Director of Personnel and Management Services, County Hall, Carmarthen. Closing date: October 19, 1978.

CANVASSING DIRECTLY OR INDIRECTLY WILL DISQUALIFY.

INSTITUTE OF HYDROLOGY

The Institute of Hydrology Wallingford have a vacancy at SO/HSO level for a

PROGRAMMER/ ANALYST

to give assistance to the Institute's scientists who are working on a wide range of hydrological projects. The Institute operates a UNIVAC 1108 and PDP8 and PDP8e Computers and is applying microprocessor techniques to the development of hydrological instrumentation. The Univac has 262k of memory, 4 magnetic tape drives and 240 MD of disc storage and supports both batch and demand work. Twenty terminals are in use both on site and at other institutes. The organisation of computing services in NERC is under review and it is possible that the post will be part of the NERC computing service. The successful candidate will be expected to give assistance with all stages of scientific staff's computing needs, from planning to final data storage and analysis, and also to do some applications work

Qualifications

Under age 30 with a good degree or equivalent in Mathematics, computer science or other science subjects. A sound knowledge of FORTRAN is essential and assembly language expertise and experience with UNIVAC 1100 or IBM 360 Series would be an advantage.

Salary and Conditions

The appointment will be to the Scientific Officer or Higher Scientific Officer grade. Starting salary will depend on age and experience, but will be within the following scales

Scientific Officer £2839-£4415. 20 days' paid annual leave in all cases
Higher Scientific Officer £4101-£5448. 22 days paid annual leave in all cases.

There is a non-contributory superannuation scheme

Staff of the NERC are not Civil Servants but their pay and conditions of service are similar to those of the Civil Service

The Institute is situated in pleasant rural surroundings and has a staff restaurant, an active sports and social club and a flexible working hours scheme. Write for application forms quoting reference E2/1/104 to

Institute of Hydrology
Maclean Building
Crowmarsh Gifford
Wallingford
Oxon OX10 8BB

Closing date for applications 2nd November, 1978

NATRUAL ENVIRONMENTAL RESEARCH COUNCIL

IRELAND

NEW SALES & SYSTEMS APPOINTMENTS

DUBLIN £11,000+ (1st year guaranteed)

Our client is an international manufacturer of MINICOMPUTER equipment, with sophisticated software for a wide variety of applications.

They have established a sound and rapidly expanding customer base in IRELAND, and have set up Headquarters in Dublin to support, develop and expand this base.

The newly appointed Chief Engineer now wishes to build his local Sales and Systems teams.

A number of positions are available for the following personnel:

SALES EXECUTIVES — With drive, ambition and a proven track record in selling computers or related products.

SUPPORT SPECIALISTS — Smart and well-motivated with a good Analyst/Programmer background.

THE REWARDS — The job satisfaction of working with state-of-art technology plus:

- High Basic Salary
- Company Car
- U.S. based training and development
- Top Grade Commission Plan (Sales)
- High first year earnings guarantee

APPLICATIONS STRICTLY CONFIDENTIAL

Telephone/write NOW to Pat Rafter or Eamonn Cooper Quote Reference CW15

Insight Marketing and Personnel Consultants
33 Mespil Road, Dublin 4
Telephone 681168, 681277

FURTHER NEW CAREER OPPORTUNITIES—£10K PLUS

Exist for personnel qualified to fill the following KEY appointments:

Senior Sales/Marketing Management
Project Management
Analyst/Programmers
Business Analysts
Sales Executives
Systems Analysts
Mini computer specialists
Customer/Production Engineers

Don't underestimate your experience/ability — Let us assess your suitability. Please telephone Pat Rafter or Pauline Healy quoting reference CW16.

THE REWARDS — all these appointments include high basic salaries, first class fringe benefits and top grade training programmes to ensure career progression.

YOUR APPLICATIONS WILL BE TREATED IN THE STRICTEST CONFIDENCE

IMPC (IRELAND) LTD.,
33 Mespil Road, Dublin 4
Telephone 681168, 681277

Insight Marketing and Personnel Consultants
33 Mespil Road, Dublin 4 Telephone 681168, 681277

COMBYTE SERVICES LIMITED

YOU are reading this advertisement because:

—YOU are definitely looking for another job (for whatever reason)
—YOU would make a change if the right chance came along (you are not desperate)
—YOU like to be aware of what is available should the need arise
—YOU have just had a row with the D.P. Manager, Systems Manager, Programming Manager, Operations Manager, etc., etc.
—YOU have no work to do and are just filling in the time by browsing

If any of the above are true YOU **should** be talking to US.

We have large numbers of vacancies covering the whole spectrum of jobs in industry through to £10K **basic** for a Sales Executive.

Other Egs:

PROGRAMMERS (Users & Consultancies)	—to c£6K
ANALYSTS (Users & Consultancies)	—to c£8K+
OPERATORS (Users Only)	—to c£4K+
TRAINEES (Users & Consultancies)	—to c£3.5K

N.B. Trainees must do a programming test — It is **not**, however, an aptitude test

CONTACT:

NORTH
Jill Jones or Kay Lees
Combyte Services Ltd.
11 Stamford House
Stamford New Road
Altincham
Cheshire WA14 1BL
Tel. 061-928 5255
061-941 4609

SOUTH
Marilyn Davidson
Combyte Services Ltd.
Suite 74/76
12/13 Henrietta Street
Covent Garden
London WC2E 8LH
01-240 3223/4

Evgs./W. End Jill — 061-881 2551
Kay — 061-973 4053
Agency Licence No. NW419

COMBYTE SERVICES LIMITED

SALEM ENGINEERING COMPANY LIMITED

require

Programmer/ Analyst

For a computer installation currently being developed, knowledge of COBOL would be an advantage, the successful applicant must demonstrate programming ability and experience of mini-computer is essential since work will be on an Allied Business Systems Multibus computer using the "SIMPLE" development language. The Company is part of a World-wide Organisation. Ideally applicant will be in the approximate age range 23-27 years.

There is an attractive pension scheme and canteen facilities. Salary according to experience.

Further details and application form from

The Personnel Officer
Salem Engineering Company Limited
Milford House
Milford
Derby DE5 YQW

THORBAR

RECRUITMENT AND CONSULTANCY SERVICES

Greenock House 19 Cuckfield Road Hurstpierpoint Sussex
Telephone 0273 833848

SPECIALISTS IN DP AND EXECUTIVE RECRUITMENT

GERMANY WEST

PROJEKTLEITER ANALYST/PROGRAMMIERER

TO 66,000 DM PER ANNUM

ERFAHRUNG IN SOFTWARE UND PRODUKTIONSKONTROLLE

Haben sie die faehigkeit und erfahrung fuer unsere Kunden in der entwicklung von operating software fuer einen neu herausgebrachten mini-computer zu arbeiten und produktionskontrollsysteme zu schreiben?

Dies sind herausragende moeglichkeiten fuer sie, vorausgesetzt, sie erfuellen folgende anforderungen:

PROJEKTLEITER

1. Wir suchen kandidaten, die ueber solide grundlagen im designing und ausfuehren von produktionskontrollsystemen verfuegen.
2. Es werden solche bewerber bevorzugt, die ueber erfahrungen im design von systemen fuer micro-computer hardware wie PDP 11, Siemens 330 oder Philips P800 verfuegen.
3. Wir erwarten, dass sie bereits projekt-teams gefuehrt oder in einer leitenden position gewirkt haben.

ANALYST/ PROGRAMMIERER

1. Erfahrung im schreiben und entwickeln von operating software fuer mini-computer sind erforderlich.
2. Erfahrung als Assembler-Programmierer oder in einer gleichwertigen niedrigen sprache ist voraussetzung.
3. Von ihnen wird erwartet, dass sie bei der entwicklung und programmierung von software mitarbeiten.
4. Jede art von erfahrung in 'communications software' wird fuer sie von vorteil sein.

PARIS

SYSTEMS ENGINEERS — OS/MVS/VM

SALARY CIRCA £14,000 per annum plus relocation expenses

We are seeking to identify well-qualified candidates to fill the above positions.

You will ideally possess up to three years' sound experience from working within an OS/MVS/VM environment involving Systems Generation and the design and writing of Software Utilities.

It is expected that you will be well qualified academically — preferably with a degree.

You will be called upon to act in a Consultancy role, guiding and advising clients in the use of this software and it will therefore be desirable, although not essential, for you to be fluent in the French Language.

The work will initially be located in Paris, with the possibility of moving to other sites in France and abroad after the first year, if desired.

OUR CLIENTS ARE PART OF A MAJOR GROUP AND PROVIDE A WIDE RANGE OF PROFESSIONAL SERVICES TO THEIR CLIENTS THROUGHOUT EUROPE. THESE ARE PERMANENT APPOINTMENTS OFFERING SUCCESSFUL CANDIDATES THE OPPORTUNITY TO GAIN VALUABLE EXPERIENCE AND TO PROGRESS THEIR CAREERS WITHIN A VERY DYNAMIC AND PROGRESSIVE ENVIRONMENT.

UNSERE KUNDEN GEHOEREN ZU EINER GROSSEN EUROPAEISCHEN DV-GRUPPE MIT EINER BREITEN ANGEBOTSPALETTE IN GANZ EUROPA. DIE POSITIONEN SIND AUF DAUER ANGELEGT UND BIETEN DEM ERFOLGREICHEN KANDIDATEN DIE GELEGENHEIT, WERTVOLLE ERFAHRUNGEN ZU SAMMELN UND SEINE BERUFSAUSSICHTEN IN DYNAMISCHER UMGEBUNG ZU VERBESSERN.

CONTACT US NOW SO THAT INTERVIEWS CAN BE ARRANGED IMMEDIATELY

NEHMEN SIE SO SCHNELL WIE MOEGLICH KONTAKT MIT UNS AUF, DAMIT EIN EINSTELLUNGSGESPRAECH ARRANGIERT WERDEN KANN

TOP EUROPEAN COMPUTER MANUFACTURER

FINANCIAL ORGANISATIONS
MASSIVE CUSTOMER BASE
LONDON AND THE REST OF THE U.K.

Our Client, the major UK manufacturer of mainframe and mini computers, are looking to significantly expand their activities. The new Finance Region, with offices in Central London, is seeking to recruit additional high quality sales executives.

The Finance Region is responsible for marketing and selling the most successful range of computer systems ever designed and produced in Europe, winning awards for product design and export achievement. With a valuable U.K. wide existing customer base, this Region sells to financial and city computer users including building societies, banks, stock brokers and jobbers. Territories, many city based, extend across the whole of the United Kingdom.

The Organisation itself has invested large sums of money providing education and training, preventive and remedial engineering as well as excellent software support and implementation services so vital for successful selling.

We have been retained to find:-

SALES EXECUTIVES

POTENTIAL EARNINGS £16,000 +
QUOTA EARNINGS TO £12,000
HIGH GUARANTEE (NON-RECOVERABLE)
VERY GENEROUS CAR ALLOWANCE

Successful candidates should desirably have the following attributes:

* At least 2 years' experience in selling of computer hardware, software or bureau services
* A desire to sell to existing users and competitors in the financial market
* Ability to communicate with top level management
* Ambition and self-motivation

Not only does our Client offer an excellent basic package which could be as high as £15,000 (commission is payable over and above the guarantee), but there is also a professional management structure with a well designed career path. The normal benefits attributed to a major organisation are available together with a very generous car allowance.

Interested applicants should contact ROY HIGHFIELD and interviews will be arranged as soon as possible.

HUTTON EXECUTIVE SELECTION LTD.
HUTTON HOUSE,
HUTTON STREET, LONDON EC4Y 8HP.
TELEPHONE: 01-353 7141 (24 HOURS)

Hutton
SPECIALIST RECRUITMENT CONSULTANTS

CHIEF PROGRAMMER (PL1) HERTS. 7K +

Do you enjoy working with the very latest in both Hardware and Software?
This installation has every conceivable lot of not yet released IBM hardware and a lot of old stuff like a 3032 under MVS.
You would need at least [illegible] years experience of PL1 in a TP environment and a real enthusiasm for 'state of the art' programming.
TALK TO US ABOUT OTHER [illegible] PL1 JOBS IN HAMPSHIRE, SUSSEX AND ESSEX

PHONE NOW

KEY COMPUTER PERSONNEL 01.949 3140

DATA PROCESSING MANAGER

SOUTH COAST 8K +

This aggresive company is looking for an equally aggressive D P M to run its IBM [illegible] installation running RPG 11 and CCP. The Department currently consists of 10 people and expected to expand rapidly with the advent of new on line Systems.

If you are looking for a challenge where the only criterior is Cost efficiency, and are looking to be running a major 370 installation in the next four years

PHONE NOW

KEY COMPUTER PERSONNEL 01-949 5851

SALES MANAGER

12K + VOLVO + COMMISSION

BIRMINGHAM/NOTTINGHAM & MANCHESTER

This Dynamic American Company is opening a Midlands Northern Office and is looking for a young and vigorous Sales Manager capable of establishing and running sales teams in both regions. Whilst experience of IBM Mainframe (or PCM equipment) would be a distinct advantage, candidates with a successful sales record in the field would be actively considered.

PHONE NOW:

KEY COMPUTER PERSONNEL 01-949 5851

SYSTEMS ANALYST
N. LONDON — to £8,000

[illegible] providing services to the British banking industry [illegible] involved in the implementation and [illegible] on line communications based systems. [illegible] have had a programming background [illegible]

* Mortgage [illegible]
* Non contributory pension
* Personal loan scheme
* RELOCATION expenses

For further details, please ring or write to

KNIGHT PROGRAMMING SUPPORT LIMITED
27 NOEL STREET, LONDON, W.1
01-734 0152/3010, 24 hours

HUMBERSIDE COUNTY COUNCIL
Finance Department-Computer Services

Shift Controller
Grade SO1
Salary £5,232 to £5,508

This is a senior role in the Operations Section of the Computer Services Division. The person appointed will have the responsibility for the direction and control of all staff within a shift, comprising of Computer Operators, Data Controllers and Data Convertors. The job also involves very close liaison with both non-computer staff and technical staff.

Several years of practical data processing experience, some of which must have been in a supervisory capacity, together with familiarity with large machine/software concepts required.

Operations Supervisor
Grade AP4/5
Salary £4,246 to £5,073

Due to internal promotion, we need someone experienced in computer operations for the position of Operations Supervisor. This is a supervisory post and the person appointed will have responsibility for the direction and control of computer operators allocated to his/her shift.

Applicants should have;

— A minimum of three years' data processing experience with at least one year in a supervisory capacity.
— Experience of operating a large machine, using sophisticated software.
— Ability to lead and motivate junior staff.

Prospect House, Hull—Honeywell Level 66/20,
County Hall, Beverley—ICL 1902A
Honeywell (RJE) Datanet 716

These jobs will involve periodic rotation between the above locations.
Both posts carry appropriate shift allowance (12% or 14%) plus relocation packages.

Application form, available with job description from:
Computer Services Manager
Prospect House
Prospect Street
Hull HU2 8PU
Telephone (0482) 223161, Ext. 295

Closing date 23rd October, 1978.

Computer Programmers
£6,000-£6,500 Herts

Everest Double Glazing, a member of the RTZ Group, are manufacturers and distributors of high quality double glazing products with branches throughout Southern England.

Currently our DP section is expanding its mainframe from IBM system 3, model 12 to model 15D. Consequently, Programmers are required to assist in the development of new systems and the maintenance of existing systems.

Men or women, with at least three years IBM Assembler experience together with a knowledge of systems software and teleprocessing, are sought. Applicants should be self-starters, able to work hard and assimilate new data quickly.

As well as a good starting salary, career prospects within the Group are excellent.

a member of the RTZ Group

Please write with brief details to Mr D King, DP Manager, Everest Double Glazing Limited, Everest House, Cuffley, Potters Bar, Herts.

E.M.L. LTD.
We need urgently for large companies, first class men and women in the computer field.

SALES REPRESENTATIVES
Able to sell software and hardware
Salaries according to experience, ranging from £7,000-£14,000 per annum basic.

SYSTEMS & PROGRAMMING CONSULTANTS
Location West End. Experience on any commercial machine relevant, but preference will be given to those with knowledge of COBOL, mainframes or minis and who have designed one complete system however small. Salaries between £6,000-£11,000 basic.
Interested! Contact: Pat Valler on 836 3724 or write to her at Executive & Management Link Limited, 110 St. Martins Lane, London, WC2.

BANKAMERICA FINANCE LIMITED
There's only one problem with this vacancy: There's only one!
ANALYST PROGRAMMER
[illegible]

THE SALES BIT

There's always somebody who's smarter

THE Sunday Times Fun Run taught me a couple of object lessons which I would like to share.

The first thing I learned is that no matter how smart you think you are, there is always someone smarter. No matter how well you think you are doing there is always a good chance someone is doing better.

Having been firmly beaten by Bruce Tulloh last weekend my Walter Mitty vision of giving a Steve Ovett victory wave to the crowd as I strolled home a comfortable winner over 2½ miles has been shattered — even if it was only jogging really!

Before the event I thought that seven minutes per mile was pretty good. Now I realise it is just over average.

I have seen many sales situations result in this type of outcome. The salesman thinks his offer is so good it cannot be refused. His contacts are so strong no one else stands a chance. Everyone in that industry uses his company's product — only to discover that some smarter salesman has done a better job with perhaps an inferior product.

One cannot afford to assume anything in selling. The most successful salesmen are those who keep running, flat-out, right up to the tape.

I will tell you about the second lesson next week.

TRADER

BOOK REVIEW

Rigid adherence to flowcharting conventions

Program Flowcharting for Business Data Processing, by Barry J. Passen. 266pp. £6.50. John Wiley and Sons.

AS its title suggests, this book is entirely concerned with flowcharting; it is independent of any particular programming language although there is a strong Cobol undertone throughout. After an introduction to flowcharting techniques, detailed programs are developed down to the flowchart level for a variety of requirements typical of commercial programming practice such as updating, reporting, table handling and the use of decision table techniques in business programming; a surprising omission is a comprehensive discussion of data validation. The book concludes with a selection of case studies of typical complete business applications.

This book makes rather strange reading for one versed in modern scientific programming techniques; many of the flowcharts seem needlessly detailed and preoccupied with such matters as forms layout and sub-totalling. While this may be admirable for specifying work of a coder, it is somewhat depressing since the concept of arranging work lucidly seems overshadowed by rigid adherence to flowcharting conventions. Some of the technical terms used seem startlingly unlike those of scientific computing.

The book does suffer in depth from the decision not to base it on any particular language. Although there is an introductory Appendix for those totally unfamiliar with computing, it is hard to imagine a novice getting anything out of this book unless he is also studying a programming language. This is probably the book for you if you are a practising commercial programmer and want a detailed account of the standard programming techniques of your trade; those who have cut their teeth on scientific computing might enjoy a look at the book to see just how differently the other half lives.

Barry Passen is president of a computer management consulting company in Pennsylvania, and the present book is a revised version of his earlier book; Approaches to Business Data Processing Logic, published by Wiley in 1972.

PETER WALLIS
University of Bath

Brochure on plug-compatible disc drives

A BROCHURE, containing details of its range of plug-compatible disc drives incorporating "Winchester technology," is available from BASF. The products covered are the company's 6240, 6242, 6243, 6244 and 6260 drives and the BASF 6038 control unit.

For more information contact: EDP Division, BASF (UK) Ltd, Haddon House, 2-4 Fitzroy Street, London W1P 5AD. Telephone 01-637 8971.

CAMAC guide

A GUIDE to Camac is now available from the British Standards Institution. Entitled 5554 Guide to modular instrumentation system for data handling: CAMAC system, it is intended to define a modular instrumentation system capable of linking transducers and other devices with digital controllers or computers. BS 5554, which is identical with IEC 516, is priced £9.30. It may be obtained from BSI Sales Department, 101 Pentonville Road, London N1 9ND.

Puzzle answer

THE only possible form for 1/7 is 14,076/98,532.

Leicestershire

ANALYST/ PROGRAMMER

Scale rising to £5569 p.a.

Can you apply yourself to:
*Transportation and Civil Engineering Applications
*Large Computer with terminals and plotter
*Solving users' problems with programs and J.C.L.
*Design of Engineering and Information systems
*FORTRAN 77

We offer:
*A small, busy team
*Lots of users wanting assistance
*Interesting development projects
*Pleasant office on City boundary
*Attractive house prices in pleasant countryside
*Financial assistance with relocation

Application forms and further details from the County Engineer and Surveyor, County Hall, Glenfield, Leicester LE3 8RJ. Telephone Leicester (0533) 871313 Ext. 7422.

Closing date Monday 30th October 1978. Interviews will be held on Tuesday 14th November 1978.

ANALYST/ PROGRAMMER

—CITY

The plum job of the week.

A leading City Bank is looking for a YOUNG Analyst/Programmer (preferably with 2 years' Banking experience) to work on their System 3/15.

The ideal applicant would have had 2 years' RPG 11 programming experience followed by a short Analyst career.

Ideal age would be early/mid twenties.

KEY COMPUTER PERSONNEL 01-949 5851

THE UNIVERSITY OF MANCHESTER

LECTURER IN COMPUTER SCIENCE

Applications invited for the above new post from candidates who should have a good general background in Data Processing. The successful applicant will be expected to have a full involvement in the teaching of the Department and to initiate research into the application of micro/mini computer networks to distributed data processing. Preference will be given to applicants with relevant recent experience in Data Processing. Duties commence as soon as possible. Initial salary in the range £3,883-£7,754 p.a. Superannuation. Particulars and application forms (returnable by November 6th) from the Registrar, The University, Manchester M13 9PL Quote Ref. 233/78/CW.

UNITED STATES FIRM DESIRES ENGLISH REPRESENTATIVE

to serve as liaison for applicants relocating in the United States. Flexible work hours. Please submit resume in confidence to Box No. 1985 Computer Weekly, Dorset House, Stamford St., London SE1 9LU.

Informatics

Do you know whether this is just the latest buzzword or whether it is the shape of computing in the future?
We are an educational institution in north London deeply concerned with **Informatics**.
We have the latest equipment and software.

Right now we need Senior

Analyst/Programmers

with training and aptitude to graduate level to

- develop the theory of **Informatics**
- apply **Informatics** to our own administrative problems
- support **Informatics** through the development of appropriate software.

We will pay between
£5517 and **£6345** pa inc.
for the right experience.

Interested? Find out more by ringing Peter Hammersley or Frances Peace on
01-368 1299.

HERTS and NORTH LONDON

ANALYSTS £5,300/£7,200
PROGRAMMERS £4,000/£6,000

Haymarket Computing are D.P. recruitment consultants to 35 companies in the Herts/North London area, and we are currently anxious to meet Analysts, Analyst/Programmers and Programmers on behalf of clients located in **Borehamwood, Wembley, Welwyn Garden City, Southgate, Hoddesdon and Enfield.**

Applicants will be invited to look through our client register which details the companies, positions, salaries, prospects, etc., so that we may jointly choose the vacancies best suited to your requirements and experience

For more information ring
HAYMARKET COMPUTING LTD.
Tel: Cuffley (Herts.) 4130 up to 6.30 p.m.

LANCHESTER POLYTECHNIC at COVENTRY

POLYTECHNIC DIGITAL COMPUTER FACILITY

In the near future the Polytechnic will replace its present equipment (an ICL 1903S with 128K under GEORGE III and an ICL 2903/40) and move to new accommodation. Due to these changes, the following posts are vacant:

COMPUTER PROGRAMMER/ ADVISERS

(£4,245 to £5,073 p.a.)

To develop and enhance Software for academic purposes and to assist in the provision of an advisory service. Graduates required with a relevant discipline or equivalent with some industrial experience.

COMPUTER DOCUMENTATION OFFICER

(£4,245 to £5,073 p.a.)

To take responsibility for the design and provision of all internal and external documentation. Graduate or equivalent required. Experience in computer terminology, documentation layout or graphics desirable.

For application forms and job specifications please apply in writing enclosing a foolscap stamped and addressed envelope to:

THE PERSONNEL OFFICER
LANCHESTER POLYTECHNIC
PRIORY STREET, COVENTRY CU1 5FB
Returnable by 26th October, 1978

SYSTEMS & PROGRAMMING

SWISS COTTAGE LONDON, NW3 — **UP TO £6.500**

We are a major company of the National Freight Corporation providing a nationwide collection and delivery service for parcels traffic.

Vacancies currently exist in the Roadline UK Limited Systems team at Group Headquarters, Swiss Cottage, London

Programmers and Analysts with a minimum of 18 months experience are invited to join a small team currently implementing various on-line systems. Cobol experience is necessary and knowledge of TDS or IDS would be an advantage. The work is varied and interesting, the equipment a Honeywell 66/40 and a network of terminals located throughout the country

The salaries are negotiable up to £6.500 p.a. depending on experience and carry the usual range of benefits associated with employment in a large company.

Please contact Phil Meadows in the Personnel Department at

Roadline UK Limited
137 Finchley Road
London NW3 6JB
Tel. 01-586 2211

roadline

STAFFORDSHIRE COUNTY COUNCIL

Planning Assistant

(Trainee/Assistant Programmer) – Post No. 3002127

Grade AP.1/3 – £2,823-£4,146 per annum (including supplement)

Applications are invited for this post in the Research and Intelligence Unit of the Strategic Planning Division, which deals with the information systems associated with the monitoring and review of Strategic Planning policy in a large and diverse County

Applicants should preferably possess experience of computer programming and wish to broaden their experience by working on the operation and development of a computer based planning information system. They may also be required to contribute to other related aspects of work in the unit.

Applications (no forms) giving full particulars of age, experience, qualifications, etc., together with the names and addresses of two referees, should reach the County Planning Officer, Martin Street, Stafford ST16 2LE by 18th October, 1978.

Relationship to any member or senior officer of the County Council must be disclosed.

COMPUTER OPERATOR

A Computer Operator is required by the 112 year old Mornington Building Society for their office in Kentish Town.

A new IBM System 3 Computer has just been installed to operate 18,000 accounts and the number is steadily increasing.

The salary is generous and there is a non contributory pension scheme/BUPA and 4% mortgage interest rates are available.

Write or telephone
The Manager
Mornington Building Society
168 Kentish Town Road
London NW5 2BT
Telephone: 01-267 2971

Due to pressure on space 'The Hex Kid' has been held over until next week.

In 18 months, we've installed an IBM 370/158, implemented a fully integrated Marketing Information System, standardised financial and payroll applications and will be migrating to OS/MVS in early 1980.

Now, what have you been doing?

At Corning we're on the move - moving ahead in the field of consumer, scientific and industrial glass: we're the people who have made 'Pyrex' a household name. Substantial investment has not only been made in new plant and techniques but we're also right on schedule with an ambitious up-grade of data processing activities.

Establishing the sophisticated system is just the beginning. To continue development we need more **Project Leaders, Analysts, Senior Programmers, Systems Programmers and Implementers.** You'll be involved in the development of manufacturing, marketing, financial and employee information systems throughout all the Corning divisions (we are a multi-million dollar international company), which will mean particularly close liaison with New York and Fontainebleau.

Experience on any machines would be acceptable as a solid base on which to build but preferably you'll have IBM experience. Certainly we can promise challenging work of considerable variety with the satisfaction of working with a really advanced system. Highly competitive salaries are backed by excellent career prospects. In contrast to the high technological environment, Washington and its surrounding countryside in the North East provides a pleasant and relaxing atmosphere in which to work. Housing is sensibly priced and there are no 'big city' pressures and expenses.

The last 18 months has proved Corning's commitment to our computer function - can you match that commitment?

Start by contacting David Green on Washington (0632) 466660, Professional & Executive Recruitment, Derwent House, District 1, Washington, Tyne & Wear.

CORNING

PER Professional & Executive Recruitment — Applications are welcome from both men and women

Technical Support Consultant To £8,500
CICS Systems Programmer To £7,500

These are exciting opportunities for experienced CICS systems programmers to move into a more challenging and rewarding role. They would form a small, highly skilled technical team — a key part of a new DP department.

The installation is the computer services division of a major financial organisation offering a secure environment. A first rate management team has been brought together and now a significant expansion phase has been entered based on on-line and database systems.

IBM hardware is used operating under MVS. A CICS/VS network is now to be installed based on 3790 terminals servicing database systems. This network is to grow to a significant size within the next three years.

Candidates for the above positions should be capable of setting-up and generating the CICS network, maintaining it and controlling its growth. It will also be necessary to provide a technical consultancy service to the department as a whole.

The company is based in Croydon and relocation expenses will be paid if appropriate. Salary will be competitive and benefits include excellent non-contributory pension and flexitime.

Ring 01-686 9693 and we will tell you more about the installation or write quoting reference CW39-8H including brief career details to our CROYDON office.

01-686 9693 (24 HOUR ANSAPHONE) 19, PARK STREET, CROYDON, CR0 1TN
061 236 9085 FAULKNER HOUSE, FAULKNER STREET, MANCHESTER, M1 4YD

COMPUTER AND PROFESSIONAL PERSONNEL CONSULTANTS — **CAPP ASSOCIATES** LONDON AND MANCHESTER — Computing Services Association

A place in the sun for computer professionals.

We're looking for people to make a career with us in South Africa. And we are offering a very attractive proposition:

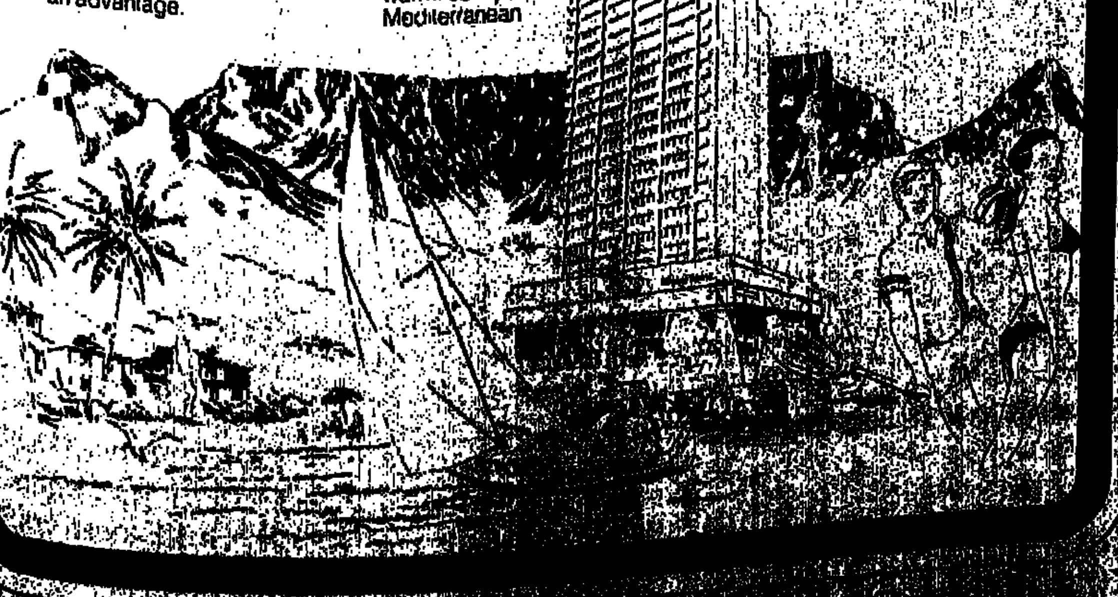
Our requirements are for
Systems Analysts
At least two years experience in analysis, design and implementation of commercial applications, on top of two years programming
A formal business or science qualification would be an advantage, as would be experience in DB/DC.

Systems Programmer
Expertise in IBM OS/VS, Assembler and COBOL.
At least three years experience in systems programming.
Experience in DB/DC would be an advantage.

Interest and challenge. Developing sophisticated applications for our IBM 370 mainframe and Burroughs B80 distributed network; implementing DB/DC.
Generous rewards. Including a highly competitive salary, annual bonus, good pension and medical aid schemes, assisted study.
Superb working conditions. Mobil House, Capetown, is an ultra-modern building and our offices on the 17th floor offer incredible views.
Excellent climate. A warm, sunny Mediterranean climate in what has to be one of the world's most beautiful cities.
Relocation assistance.
In the long term. The unlimited opportunity to advance your career to the limits of your capabilities.

Interviews will be conducted in London. Please write stating your age, marital status, qualifications and experience to P. J. Johnston, Mobil House, 54-60 Victoria Street, London SW1.

Mobil



HOLLAND

Share System Programming Ltd. is a company that specialises in providing system programming support for IBM users. We are looking for experienced

System Programmers

(£ 375,- - £ 425,- per week

who are keen to tackle interesting projects and try a different lifestyle. If you are experienced in DOS/VS, OS/VS1, OS/VS2, VM/370, IMS DB/DC, DL/1, CICS/VS or TOTAL, send us details of your career to date.
If you would like to talk to us first, phone Robert Voges on 020-452022 in Amsterdam during office hours or, at other times, John Owens on 02507-6001 in Zandvoort, in Holland and reverse the charges.

SHARE

Share System Programming Ltd.
Etna 19, 1186 CM
Amstelveen
Holland

SYSTEMS ANALYSTS/PROGRAMMERS

The Central Electricity Generating Board, North Eastern Region, invite applications for the following vacancies in their Computer Branch which is located at Beckwith Knowle, Harrogate.

The Computer Branch is responsible for computing development and production work on an ICL 1904S computer, and bears functional responsibility for Regional work on the twin IBM 370/168 installation in London, and for computing developments utilizing mini computers elsewhere in the Region.

It is intended within the next 18 months to replace the existing ICL 1904S (192K store, EDS 60's MT's etc., operating under George III) by a current generation system with the capability of supporting a comprehensive communications network. It is expected that there will be a growth of distribution computing at larger Power Stations. As part of the planned development of management systems in the Region additional computing staff are required. The proposed applications include Materials Control/Purchasing, Costing and Budgeting, Work control and scheduling, Plant performance analysis, other engineering systems, maintenance and support of production work.

SYSTEM ANALYSTS

Applicants for these posts should have a degree or professional qualification and substantial experience of analysis and design.

The salary will be within one of the following ranges: £4680 p.a.-£6130 p.a. or £5485 p.a.-£7146 p.a. SVN/723/CW

PROGRAMMERS

Applicants with a degree or professional qualification are preferred with at least one year's programming experience using Cobol or Fortran on an ICL 1900 computer operating under George III.

Persons with less experience, or who wish to train as a programmer may be considered for appointment as a Trainee Programmer.

The salaries will be:
PROGRAMMER £3865 p.a.-£4830 p.a. or £4120 p.a.-£5470 p.a.
TRAINEE PROGRAMMERS £3394 p.a.-£4055 p.a. SVN/724/CW

Point of entry to all the above salary ranges will be dependent upon age and qualifications.
Applications in writing, giving full details of age, experience, qualifications, present position and salary should be forwarded to the Regional Personnel Manager, Central Electricity Generating Board, North Eastern Region, Beckwith Knowle, Otley Road, Harrogate, to arrive not later than Monday 23rd October 1978.
Please quote the appropriate reference number.

Central Electricity Generating Board - North Eastern Region